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MONTHLY PROGRESS REPORT NO. 9  
for the period November 1-30, 1976  
to  
ENVIRONMENTAL PROTECTION AGENCY  
REGION VIII

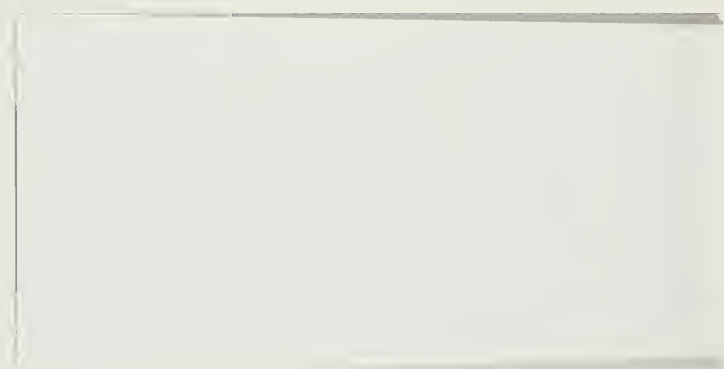
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for the period November 1-30, 1976  
to  
ENVIRONMENTAL PROTECTION AGENCY  
REGION VIII

1860 Lincoln St., Suite 900  
Denver, CO 80203

Contract No. 68-01-1946

by

Aeromet, Inc.  
Box FF  
Norman, OK 73070

Colorado C-b Tract



## 1.0 INTRODUCTION

Low level temperature and wind data were collected for November, 1976 at Casper, Wyoming; the Shell Oil Co. Colorado C-b Tract 25 miles west of Rio Blanco, Colorado; Craig, Colorado; Escalante and Hanksville, Utah; Rock Springs, Wyoming; and the U-a/U-b Tract 5 miles south of Bonanza, Utah. The data collection was made using a 30 gm helium filled pilot balloon with a temperature sonde attached, a single theodolite and a TSR-2 receiver/recorder twice a day every other day. The observations were made  $\frac{1}{2}$  hour after sunrise and 1400L.

The pilot balloon had an ascent rate of 500 ft/min and it was tracked by a single theodolite for 12 minutes with the azimuth and elevation angles recorded every 30 seconds on a cassette tape recorder. The tape was transcribed to a pilot balloon form after the observation.

The temperature sonde operated at 403 MHz and the signal was received by a ground plane antenna at least 24 ft. AGL which was attached to the Aeromet, Inc. TSR-2 receiver/recorder. The TSR-2 receiver has a built-in Rustrak strip chart recorder and the temperature was recorded within the range from  $-50^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$ . A base-line temperature calibration was performed with each T-Sonde by the adjustment of the recorded temperature to match the thermometer measured temperature next to the transmitting sonde. Once the calibration check was finished the balloon was released with the sonde attached and the temperature was recorded for at least 20 minutes. At the completion of each observation the data were mailed to Aeromet, Inc.

The Monthly Progress Report is divided into seven parts, one corresponding to each of the seven field sites. The collected temperature and wind data are accurate and have not been edited unless otherwise stated in the Pilot Balloon Summary section. However, the obvious errors sometimes found in the recorded azimuth and elevation angles are corrected without mention. For example, the sequence of azimuth angles . . . 76.6, 75.3, 47.8, 73.8 . . . can be corrected without ambiguity. The more ambiguous errors are brought to the attention of the reader if editing has been performed, otherwise, the data are left as recorded and the filtering is left to the individual user. An example is the wind profile for Hanksville on 06/29/76 at 1300 MST found in the Monthly Progress Report No. 4. The azimuth angles starting 30 seconds after the launch and incremented by the same are as follows . . . 109.0, 110.0, 110.0, 281.0, 280.0, 282.0 . . . , while the corresponding elevation angles are as follows, . . . 60.0, 57.6, 58.7, 58.6, 52.7, 44.3 . . . . The wind speed and direction change dramatically over the interval as can be seen in the report since these data were not edited.



## 2.0 DATA SUMMARY

### 2.1 Colorado C-b Tract Field Summary

The data collection for the month of November is much improved over October's record. Negotiations were started with the C-b Shale Oil Project, the Environmental Protection Agency and Aeromet, Inc. to increase the data collection percentage and maintain good working relationships with all involved. The C-b Tract was no longer operational on the weekends, thus making it unfeasible and too costly to have the observer drive 100 miles round trip to make the balloon observations. It was concluded that the Saturday scheduled launch would be done on Friday and the Sunday scheduled launch would be done on Monday.

The observer attempted 78% of the scheduled pilot balloon launches resulting in 78% recovery of the temperature data and 72% recovery of the wind data. A 3% loss in wind data resulted from equipment malfunctions and a 3% loss is contributed to poor weather conditions.





## 2.2 Mixing Layer Height

The average mixing layer height was computed for the morning and afternoon based on the morning and 1400L temperature soundings. The balloon release  $\frac{1}{2}$  hour after sunrise is near enough to the minimum temperature to assume the correctness of the calculated mixing layer heights. The afternoon balloon release is generally not at the time of maximum heating and the user of the mixing layer height data must be aware that minor changes in the calculated values can be expected. Without equipping the field sites with minimum/maximum thermometers the extrapolation of the afternoon data can not be justified in establishing a data base for statistical analysis. The approximation of the afternoon maximum temperature would be a "calculated guess" for there are: 1) local effects which are to be determined and would be filtered out with extrapolation, 2) mountain effects which alter the lower 1500m (e.g. downslope effects), and 3) meteorological effects which can alter the expected change in the sounding (e.g. advection, moisture, etc.).

It is felt that to better define the mixing layer height that a variety of "heat island" effects should be viewed. The rigorous method would be to define 15 "heat island" effects ranging from 0 to 14°C and let the user decide which would best serve his needs. However, for these analysis 0°, +5° and +10° "heat island" effects are calculated and listed for the morning and afternoon soundings in the table Average Mixing Layer Height.

The symbol N/D means that no mixing layer height was defined and sfc is the abbreviation for surface.

## 2.3 Stability and Inversion Classification

The temperature and wind data were edited to remove data felt to cause anomalous results in the stability and inversion classification schemes. Only the stations listed prior to the table classifying the inversions were used in the calculations.



### 3.0 DATA PROCESSING

#### 3.1 Printed and Plotted Output

Wind speeds and directions are computed from the azimuth and elevation angles measured while tracking the balloon with the theodolite. The wind speed and direction are plotted versus height and printed out at 30 second intervals. The printed output includes the AGL and MSL height of the calculated wind value and the orthognal components of the wind. The wind profile is also punched on computer cards at 30 second intervals.

The temperature data are processed and plotted with the temperature and the lapse rate per 300 meters versus height at 15 second intervals. Tic marks are placed on the temperature plot at significant levels. A solid line to the right side of the plot indicates the data for that layer are interpolated temperature values. The temperature data are also printed out and punched on cards. The asterisk beside a height value indicates a significant level while a "?" indicates interpolated data.

The temperature data are also processed to produce for each site a monthly summary of inversion layers and lapse rates within the inversions and from the inversion base to the surface by means of the Holzworth classification scheme for inversions (Holzworth, G.C., 1974: "Climatological Data on Atmospheric Stability in the United States" Paper presented at the American Meteorological Society Symposium on Atmospheric Diffusion and Air Pollution, September 9-13, 1974. Santa Barbara, California.)

The temperature and wind data are processed together to produce for each site a monthly average bivariate frequency distribution of wind direction versus wind speed represented in the 500m layer adjacent to the ground. The distribution is presented by the six Pasquill stability classes (A-F) and a summary independent of stability. If the  $\Delta T/100m$  criterion is met but the wind speed criterion is not met, then the

STABILITY CLASS	$\Delta T$ (°C/100m)	WIND SPEED
A	<-1.9	$\leq 2$
B	-1.9 - -1.7	$\leq 5$
C	-1.7 - -1.5	$\leq 6$
D	-1.5 - -0.5	ALL SPEEDS
E	-0.5 - 1.5	$\leq 5$
F	>1.5	$\leq 3$

wind data are checked against the criterion for the next stability class, always cascading to the D stability class. Once the wind speed criterion is met the data are classified under the new stability class even though now the lapse rate exceeds the class criterion. For example,



if the  $\Delta T/100\text{m}$  value is 1.7 and the wind speed is 7 m/s, the lapse rate criterion is met for the stability class F, however the wind speed criterion is exceeded. The wind speed is greater than the 5 m/s maximum limit for class E but falls within the criterion of class D, which includes all wind speeds. As a result the observational data with a  $\Delta T$  value of 1.7°C/100 m and a wind speed value of 7 m/s are classified under stability class D, not class F.

The data are also punched on computer cards in a format compatible with the STAR PROGRAM of the National Climatic Center, NOAA, U.S. Department of Commerce.



DD-5081







and the punched distribution data for each wind direction under each stability class in agreement with the "star" output. The stability classes are number coded as follows:

STABILITY CLASS	NUMBER CODE
A	1
B	2
C	3
D	4
E	5
F	6
Independent of Stability	7

The station I.D. numbers are as follows:

STATION	I.D. NUMBER
Casper, Wyoming	1
Colorado C-b Tract	2
Craig, Colorado	3
Escalante, Utah	4
Hanksville, Utah	5
Rock Springs, Wyoming	6
Utah U-a/U-b Tract	7

The month and season number codes are as follows:

MONTH	1-12
SEASON	13 = DJF
	14 = MAM
	15 = JJA
	16 = SON
ANNUAL	17



PILOT BALLOON SUMMARY  
Colorado C-b Tract  
November, 1976

November 1	0800	
	AFTN	No data were collected.
November 2	MORN	
	AFTN	No data were collected.
November 4	0800	
	AFTN	No data were collected.
November 5	0800	
	AFTN	No data were collected.
November 8	0800	Balloon was lost in the clouds after 8 minutes.
	1430	Temperature values were interpolated over the interval from 1 3/4 to 8 3/4 minutes.
November 10	0715	
	1400	Balloon was lost in the clouds after 8 1/2 minutes.
November 12	0815	Temperature values were interpolated over the interval from 8 1/2 to 10 1/2 minutes.
	1350	Temperature values were interpolated over the interval from 10 1/2 to 12 1/2 minutes.



PILOT BALLOON SUMMARY  
Colorado C-b Tract  
November, 1976

November 15	0830	
	1430	
November 16	0830	
	1450	Rapid increase in wind speed due to large decreases in elevation angles.
November 18	0830	
	1240	
November 19	0730	
	1230	
November 22	0720	
	1345	
November 24	0830	Tape did not record first 4 minutes of azimuth and elevation readings.
	1430	
November 26	MORN	No data were collected.
	AFTN	No data were collected.
November 29	0825	No wind data were collected due to snow.
	1430	
November 30	0830	
	1330	No wind data as tape recorder gave out.



# AVERAGE MIXING LAYER HEIGHT

Colorado C-b Tract

November, 1976

## HEIGHT IN METERS

DATE	MORNING			AFTERNOON		
	0°	+5°	+10°	0°	+5°	+10°
1	sfc	750m	1800m			
2						
4	sfc	600m	1450m			
5	sfc	300m	900m			
8	sfc	800m	2000m	100m	1350m	2200m
10	50m	1100m	3150m	50m	1500m	3300m
12	50m	350m	550m	550m	650m	1250m
14						
15	50m	1150m	1750m	700m	1750m	2900m
16	sfc	2050m	2650m	1650m	2750m	3250m
18	sfc	250m	1250m	750m	2400m	N/D
19	sfc	350m	1000m	1000m	2750m	N/D
22	sfc	600m	3150m	200m	3800m	N/D
24	sfc	900m	3050m	1750m	N/D	N/D
26						
29	300m	1300m	1550m	1650m	2500m	N/D
30	550m	1600m	N/D	900m	2300m	N/D





## CLOUD COVER AND SIGNIFICANT WEATHER

Colorado C-b Tract

November, 1976

<u>DATE</u>	<u>MORNING</u>	<u>AFTERNOON</u>
1	clear	
2		
4	clear	
5	clear	
8	overcast, snow N	overcast, haze
10	scattered	overcast, rain N
12	broken	overcast
15	scattered	clear
16	scattered	clear
18	scattered	broken
19	clear	clear
22	overcast	clear
24	clear	clear
26		
29	overcast, snow	scattered
30	overcast	scattered



\*\*\*\*\*  
COL CB TRACT ELEV 2042 METERS SOUNDING ID 3157

DATE 11/01/76 TIME 08:00MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	114.	0.58	0.0

\*\*\*\*\*  
COL CB TRACT ELEV 2042 METERS SOUNDING ID 3158

DATE 11/04/76 TIME 08:00MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	305.	0.28	0.0

\*\*\*\*\*  
COL CB TRACT ELEV 2042 METERS SOUNDING ID 3155

DATE 11/05/76 TIME 08:00MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	114.	1.82	0.0

\*\*\*\*\*  
COL CB TRACT ELEV 2042 METERS SOUNDING ID 3152

DATE 11/08/76 TIME 08:00MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	38.	0.24	0.0

\*\*\*\*\*  
COL CB TRACT ELEV 2042 METERS SOUNDING ID 3154

DATE 11/08/76 TIME 14:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
76.	114.	0.0	-0.84

\*\*\*\*\*  
COL CB TRACT ELEV 2042 METERS SOUNDING ID 3153

DATE 11/10/76 TIME 07:15MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
38.	152.	0.09	-0.50



\*\*\*\*\*  
COL CB TRACT ELEV 2042 METERS SOUNDING ID 3160

DATE 11/10/76 TIME 14:00MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	38.	0.0	0.0

\*\*\*\*\*  
COL CB TRACT ELEV 2042 METERS SOUNDING ID 3149

DATE 11/12/76 TIME 08:15MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
38.	762.	0.98	-1.55

\*\*\*\*\*  
COL CB TRACT ELEV 2042 METERS SOUNDING ID 3147

DATE 11/12/76 TIME 13:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	38.	0.50	0.0

\*\*\*\*\*  
COL CB TRACT ELEV 2042 METERS SOUNDING ID 3148

DATE 11/15/76 TIME 08:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
38.	191.	0.25	-0.76

\*\*\*\*\*  
COL CB TRACT ELEV 2042 METERS SOUNDING ID 3152

DATE 11/15/76 TIME 14:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	38.	0.0	0.0

\*\*\*\*\*  
COL CB TRACT ELEV 2042 METERS SOUNDING ID 3150

DATE 11/16/76 TIME 08:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
76.	114.	0.0	-0.26





\*\*\*\*\*  
 CUL CB TRACT ELEV 2042 METERS SOUNDING ID 3145  
 DATE 11/16/76 TIME 14:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.  
 THERE ARE NO INVERSION BASES WITHIN 1000M OF THE SFC

LAYER BASE METERS AGL	LAYER TOP METERS AGL	DT/DZ (DEG C)/100M
0.	100.	-4.12
100.	250.	-0.74
250.	500.	-0.88
500.	750.	-0.98
750.	1000.	-0.98
1000.	1500.	-1.01

\*\*\*\*\*  
 CUL CB TRACT ELEV 2042 METERS SOUNDING ID 3146  
 DATE 11/18/76 TIME 08:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	267.	1.06	0.0

\*\*\*\*\*  
 CUL CB TRACT ELEV 2042 METERS SOUNDING ID 3143  
 DATE 11/18/76 TIME 12:40MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
174.	220.	0.19	-1.37

\*\*\*\*\*  
 CUL CB TRACT ELEV 2042 METERS SOUNDING ID 3142  
 DATE 11/19/76 TIME 07:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	229.	0.87	0.0

\*\*\*\*\*  
 CUL CB TRACT ELEV 2042 METERS SOUNDING ID 3142  
 DATE 11/19/76 TIME 12:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
846.	884.	0.0	-1.09

\*\*\*\*\*  
 CUL CB TRACT ELEV 2042 METERS SOUNDING ID 3144  
 DATE 11/22/76 TIME 07:20MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	267.	0.46	0.0





\*\*\*\*\*  
 COL CB TRACT ELEV 2042 METERS SOUNDING ID 3140  
 DATE 11/22/76 TIME 13:45MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.  
 INV BASE INV TOP INV DT/DZ DT/DZ BELOW INV  
 METERS AGL METERS AGL (DEG C)/100M (DEG C)/100M  
 114. 152. 0.50 -1.07

\*\*\*\*\*  
 COL CB TRACT ELEV 2042 METERS SOUNDING ID 3136  
 DATE 11/24/76 TIME 08:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.  
 INV BASE INV TOP INV DT/DZ DT/DZ BELOW INV  
 METERS AGL METERS AGL (DEG C)/100M (DEG C)/100M  
 0. 229. 0.21 0.0

\*\*\*\*\*  
 COL CB TRACT ELEV 2042 METERS SOUNDING ID 3138  
 DATE 11/24/76 TIME 14:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.  
 THERE ARE NO INVERSION BASES WITHIN 1500M OF THE SFC  
 LAYER BASE LAYER TOP DT/DZ  
 METERS AGL METERS AGL (DEG C)/100M  
 0. 100. -1.96  
 100. 250. -0.81  
 250. 500. -1.00  
 500. 750. -1.03  
 750. 1000. -0.96  
 1000. 1500. -1.00

\*\*\*\*\*  
 COL CB TRACT ELEV 2042 METERS SOUNDING ID 3137  
 DATE 11/29/76 TIME 08:25MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.  
 INV BASE INV TOP INV DT/DZ DT/DZ BELOW INV  
 METERS AGL METERS AGL (DEG C)/100M (DEG C)/100M  
 333. 485. 0.26 -0.98

\*\*\*\*\*  
 COL CB TRACT ELEV 2042 METERS SOUNDING ID 2867  
 DATE 11/29/76 TIME 14:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.  
 INV BASE INV TOP INV DT/DZ DT/DZ BELOW INV  
 METERS AGL METERS AGL (DEG C)/100M (DEG C)/100M  
 952. 1028. 0.13 -1.05

\*\*\*\*\*  
 COL CB TRACT ELEV 2042 METERS SOUNDING ID 2865  
 DATE 11/30/76 TIME 08:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.  
 INV BASE INV TOP INV DT/DZ DT/DZ BELOW INV  
 METERS AGL METERS AGL (DEG C)/100M (DEG C)/100M  
 76. 201. 0.15 -2.78

\*\*\*\*\*  
 COL CB TRACT ELEV 2042 METERS SOUNDING ID 2862



\*\*\*\*\*

CUL CB TRACT

ELEV 2042 METERS

SOUNDING ID 2863

DATE 11/30/76 TIME 13:30MSI ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE  
METERS AGL

INV TOP  
METERS AGL

INV DT/DZ  
(DEG C)/100M

DT/DZ BELOW INV  
(DEG C)/100M

932.

1008.

1.02

-1.03









MONTH: NOVEMBER      YEAR: 1976.      COL CB TRACT      SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	0-3	4-6	7-10	SPEED (METER/SEC) 11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NENE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESEE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSWS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WWS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVG SPEED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RELATIVE FREQUENCY OF OCCURRENCE OF THE A STABILITY CLASS IS 0.0

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 3 SOUNDINGS FROM A SAMPLE OF 25 SOUNDINGS DID NOT HAVE  
500 M OF TEMP AND WIND DATA





MONTH: NOVEMBER      YEAR: 1970.      COL CB TRACT      SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	0-3	4-6	7-10	SPEED (METER/SEC) 11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NENE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVG SPEED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RELATIVE FREQUENCY OF OCCURRENCE OF THE B      STABILITY CLASS IS      0.0

RELATIVE FREQUENCY OF CALM      0.0

A TOTAL OF 3 SOUNDINGS FROM A SAMPLE OF 25 SOUNDINGS DID NOT HAVE  
500 M OF TEMP AND WIND DATA



MONTH: NOVEMBER YEAR: 1976. COL CB TRACT SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	0-3	4-6	7-10	SPEED (METER/SEC) 11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVG SPEED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RELATIVE FREQUENCY OF OCCURRENCE OF THE C STABILITY CLASS IS 0.0

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 3 SOUNDINGS FROM A SAMPLE OF 25 SOUNDINGS DID NOT HAVE 500 M OF TEMP AND WIND DATA



MONTH: NOVEMBER      YEAR: 1976.      COL CB TRACT      SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	0-3	4-6	7-10	11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNE	0.0	0.08	0.0	0.0	0.0	0.0	0.0	0.08
NNE	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.08	0.0	0.0	0.0	0.0	0.0	0.08
ESE	0.08	0.0	0.0	0.0	0.0	0.0	4.0	0.08
SSE	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.08	0.23	0.0	0.0	0.0	0.0	0.0	0.31
SSW	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
WSW	0.0	0.0	0.08	0.0	0.0	0.0	0.3	0.08
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.15	0.0	0.0	0.0	0.0	0.0	0.15
WNW	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0
NNW	0.0	0.23	0.0	0.0	0.0	0.0	4.0	0.23
AVG SPEED	1.5	4.2	8.3	0.0	0.0	0.0		0.0
TOTAL	0.15	0.77	0.08	0.0	0.0	0.0		1.00

RELATIVE FREQUENCY OF OCCURRENCE OF THE D      STABILITY CLASS IS      0.59

RELATIVE FREQUENCY OF CALM      0.0

A TOTAL OF 3 SOUNDINGS FROM A SAMPLE OF 25 SOUNDINGS DID NOT HAVE 500 M OF TEMP AND WIND DATA





MONTH: NOVEMBER YEAR: 1976. CUL CB TRACT SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	0-3	4-6	7-10	11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
NNE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNE	0.22	0.11	0.0	0.0	0.0	0.0	1.7	0.33
ENE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.11	0.0	0.0	0.0	0.0	4.2	0.11
SSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.11	0.0	0.0	0.0	0.0	3.1	0.11
SSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.11	0.11	0.0	0.0	0.0	0.0	2.3	0.22
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.22	0.0	0.0	0.0	0.0	0.0	1.0	0.22
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVG SPEED	1.1	3.4	0.0	0.0	0.0	0.0		0.0
TOTAL	0.56	0.44	0.0	0.0	0.0	0.0		1.00

RELATIVE FREQUENCY OF OCCURRENCE OF THE E STABILITY CLASS IS 0.41

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 3 SOUNDINGS FROM A SAMPLE OF 25 SOUNDINGS DID NOT HAVE 500 M OF TEMP AND WIND DATA





MUNTH: NOVEMBER YEAR: 1976. COL CB TRACT SFC TO 500 METERS

### NORMALIZED FREQUENCY DISTRIBUTION

[illegible]

RELATIVE FREQUENCY OF OCCURRENCE OF THE F STABILITY CLASS IS 0.0

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 3 SOUNDINGS FROM A SAMPLE OF 25 SOUNDINGS DID NOT HAVE 500 M OF TEMP AND WIND DATA



MONTH: NOVEMBER YEAR: 1976. COL CB TRACT SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	0-3	4-6	7-10	SPEED (METER/SEC) 11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
NNE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNE	0.09	0.09	0.0	0.0	0.0	0.0	0.1	0.18
NNE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.05	0.09	0.0	0.0	0.0	0.0	0.1	0.09
SSE	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.05
SSE	0.0	0.05	0.0	0.0	0.0	0.0	1.1	0.05
SSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.09	0.18	0.0	0.0	0.0	0.0	0.3	0.27
SSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.05	0.0	0.0	0.0	0.3	0.05
WNW	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.09	0.0	0.0	0.0	0.0	1.0	0.09
NNW	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0
NNW	0.0	0.14	0.0	0.0	0.0	0.0	0.0	0.0
AVG SPEED	1.2	4.0	8.3	0.0	0.0	0.0	0.0	0.0
TOTAL	0.32	0.64	0.05	0.0	0.0	0.0	0.0	1.00

NORMALIZED FREQUENCY DISTRIBUTION INDEPENDENT OF STABILITY

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 3 SOUNDINGS FROM A SAMPLE OF 25 SOUNDINGS DID NOT HAVE 500 M OF TEMP AND WIND DATA





COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3157

ATE 11/01/76

TIME 08:00MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
	SFC		4.92		0.0		0.0	0.
1.0	150	2192	5.49	0.57	-0.19	2.74	1.7	315.
2.0	300	2342	4.92	-0.57	-1.30	1.63	0.3	356.
3.0	458.	2500.	4.45	-0.28	-2.24	0.69	3.3	98.
3.3	500	2542.	4.46	-0.18	-2.24	0.69	1.9	75.
6.3	958.	3000.	1.60	-2.85	-2.07	0.86	2.8	48.
12.8	1958.	4000.	-3.31	-4.92	-1.34	1.59	2.7	344.
19.4	2958.	5000.	-3.21	0.10	-0.38	2.55		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3157

ATE 11/01/76

TIME 08:00MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
0.0	0.	2042.	0.0	0.0	0.0	0.
0.5	76.	2118.	2.1	-2.7	3.4	323.
1.0	152.	2194.	1.2	-1.1	1.6	314.
1.5	229.	2271.	0.1	-1.1	1.1	355.
2.0	305.	2347.	0.0	-0.3	0.3	356.
2.5	381.	2423.	-2.3	-0.5	2.3	77.
3.0	457.	2499.	-3.3	0.5	3.3	99.
3.5	533.	2575.	-0.7	-0.5	0.8	56.
4.0	610.	2652.	-1.9	-0.4	1.9	79.
4.5	686.	2728.	-1.8	-1.0	2.1	62.
5.0	762.	2804.	-1.3	-1.5	2.0	41.
5.5	838.	2880.	-1.9	-1.9	2.7	45.
6.0	914.	2956.	-1.6	-1.2	2.0	52.
6.5	991.	3033.	-2.3	-2.4	3.3	45.
7.0	1067.	3109.	-1.7	-1.3	2.1	53.
7.5	1143.	3185.	-2.0	-1.1	2.3	62.
8.0	1219.	3261.	-1.7	0.0	1.7	90.
8.5	1295.	3337.	-1.8	0.0	1.8	91.
9.0	1372.	3414.	-1.4	-0.7	1.6	63.
9.5	1448.	3490.	-1.3	-1.0	1.7	51.
10.0	1529.	3571.	-1.6	-1.6	2.3	45.
10.5	1605.	3647.	-1.2	-1.6	2.1	37.
11.0	1682.	3724.	-1.0	-1.6	1.9	32.
11.5	1758.	3800.	-0.6	-1.8	1.9	19.
12.0	1834.	3876.	-0.3	-2.1	2.1	9.
12.5	1910.	3952.	1.3	-3.3	3.6	339.
13.0	1986.	4028.	0.5	-2.1	2.2	347.
13.5	2063.	4105.	0.8	-2.3	2.4	340.
14.0	2139.	4181.	3.3	-3.1	4.5	313.



COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3158

TE 11/04/76

TIME 08:00MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
	SFC		3.98		0.0		0.0	0.
1.0	150	2192	4.83	0.85	-0.19	2.74	1.3	348.
2.0	300	2342	4.83	0.00	-0.37	2.56	1.2	23.
3.0	458.	2500.	3.50	-1.30	-1.68	1.25	1.2	47.
3.3	500	2542	3.50	-0.03	-1.68	1.25	1.3	40.
6.3	958.	3000.	1.69	-1.80	-1.88	1.05	1.0	86.
12.8	1958.	4000.	-1.09	-2.78	-2.65	0.27	1.7	57.
19.4	2958.	5000.	-3.99	-2.91	-1.91	1.01		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3158

TE 11/04/76

TIME 08:00MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
0.0	0.	2042.	0.0	0.0	0.0	0.
0.5	76.	2118.	-0.1	-1.1	1.1	3.
1.0	152.	2194.	0.0	-1.3	1.3	360.
1.5	229.	2271.	-0.6	-1.5	1.6	23.
2.0	305.	2347.	-0.4	-1.1	1.2	23.
2.5	381.	2423.	-0.5	-1.2	1.3	22.
3.0	457.	2499.	-0.9	-0.8	1.2	47.
3.5	533.	2575.	-0.8	-1.1	1.4	34.
4.0	610.	2652.	-1.4	-1.7	2.2	39.
4.5	686.	2728.	-1.4	-1.6	2.1	42.
5.0	762.	2804.	-0.9	-1.1	1.4	38.
5.5	838.	2880.	-1.3	-0.8	1.5	57.
6.0	914.	2956.	-0.8	-0.3	0.8	71.
6.5	991.	3033.	-1.0	0.1	1.0	98.
7.0	1067.	3109.	-0.4	0.1	0.4	99.
7.5	1143.	3185.	-1.2	-0.7	1.4	58.
8.0	1219.	3261.	-0.2	-0.1	0.3	72.
8.5	1295.	3337.	-0.6	-0.8	1.0	35.
9.0	1372.	3414.	-1.9	-3.0	3.6	32.
9.5	1448.	3490.	-0.3	-1.6	1.6	10.
10.0	1524.	3566.	-2.1	-0.1	2.1	87.
10.5	1600.	3642.	-1.3	-0.8	1.5	58.
11.0	1676.	3718.	-1.5	-0.7	1.7	66.
11.5	1753.	3795.	-1.5	-0.7	1.6	63.
12.0	1829.	3871.	-1.2	-0.7	1.4	61.
12.5	1905.	3947.	-1.4	-1.0	1.8	55.
13.0	1981.	4023.	-1.4	-0.9	1.6	58.
13.5	2057.	4099.	-1.2	-0.8	1.5	57.





COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3155

DATE 11/05/76

TIME 08:00MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
0.8	SFC		3.41		0.0		0.0	0.
1.0	* 114	2156	5.49		0.93	3.86		
2.0	150	2192	5.40	1.99	-0.37	2.56	1.0	257.
3.0	300	2342	5.11	-0.29	-0.37	3.30	0.5	172.
4.0	458	2500	5.02	-0.26	0.19	3.11	0.7	322.
5.0	500	2542	5.01	-0.16	0.19	3.11	0.8	297.
6.3	958	3000	4.45	-0.56	-0.19	2.74	3.0	358.
12.8	1958	4000	0.65	-3.80	-1.89	1.04		
19.4	2958	5000	0.35	-0.29	-0.19	2.74		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3155

DATE 11/05/76

TIME 08:00MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
0.0	0.	2042.	0.0	0.0	0.0	0.
0.5	76.	2118.	1.2	-0.4	1.3	288.
1.0	152.	2194.	1.0	-0.2	1.0	256.
1.5	229.	2271.	0.5	0.5	0.7	226.
2.0	305.	2347.	-0.1	0.5	0.5	168.
2.5	381.	2423.	1.0	0.1	1.0	266.
3.0	457.	2499.	0.5	0.6	0.7	322.
3.5	533.	2575.	0.9	0.1	0.9	278.
4.0	610.	2652.	1.2	0.6	1.4	295.
4.5	686.	2728.	0.0	0.0	2.0	0.
5.0	762.	2804.	-2.3	0.0	3.8	37.
5.5	838.	2880.	-0.0	0.4	2.4	0.
6.0	914.	2956.	0.0	0.5	2.5	359.
6.5	991.	3033.	0.2	0.3	3.3	357.
7.0	1067.	3109.	0.2	0.6	2.6	5.
7.5	1143.	3185.	0.6	0.0	2.1	16.
8.0	1219.	3261.	1.0	0.9	2.2	28.
8.5	1295.	3337.	0.9	0.5	2.7	20.
9.0	1372.	3414.	2.0	0.8	2.1	68.
9.5	1448.	3490.	1.0	0.0	1.5	46.
10.0	1524.	3566.	1.0	0.6	1.2	58.
10.5	1600.	3642.	2.1	0.0	2.1	91.
11.0	1676.	3718.	1.8	0.0	1.8	91.
11.5	1753.	3795.	2.5	0.5	2.6	102.
12.0	1829.	3871.	1.5	0.2	1.2	98.
12.5	1905.	3947.	1.9	0.2	2.0	95.



COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3152

ATE 11/08/76 TIME 06:00MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
	SFC		8.30		0.0		0.0	0.
1.0	150	2192	8.02	-0.28	-1.10	1.83	4.1	95.
2.0	300	2342	7.27	-0.75	-1.10	1.82	4.8	105.
3.0	458.	2500.	6.05	-0.85	-1.11	1.82	4.0	121.
3.3	500	2542.	6.08	-0.35	-1.11	1.82	4.0	115.
6.3	958.	3000.	4.36	-1.72	-1.49	1.44	6.0	177.
12.8	1958.	4000.	-1.38	-5.73	-0.76	2.17		
19.4	2958.	5000.	-5.65	-4.27	-1.15	1.78		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3152

ATE 11/08/76 TIME 08:00MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
0.0	0.	2042.	0.0	0.0	0.0	0.
0.5	76.	2118.	-3.0	-0.2	3.0	86.
1.0	152.	2194.	-1.1	0.4	4.1	95.
1.5	229.	2271.	-5.2	1.2	5.3	103.
2.0	305.	2347.	-4.6	1.2	4.7	105.
2.5	381.	2423.	-4.6	2.1	5.0	115.
3.0	457.	2499.	-3.5	2.1	4.0	121.
3.5	533.	2575.	-3.0	1.4	4.0	111.
4.0	610.	2652.	-4.0	1.0	3.2	108.
4.5	686.	2728.	-1.1	1.3	2.5	122.
5.0	762.	2804.	-1.1	2.2	2.5	153.
5.5	838.	2880.	-0.4	3.7	3.8	174.
6.0	914.	2956.	-0.7	5.7	5.8	187.
6.5	991.	3033.	-1.1	6.0	6.1	169.
7.0	1067.	3109.	-2.2	9.3	9.5	193.
7.5	1143.	3185.	-0.9	6.7	6.8	188.
8.0	1219.	3261.	-2.2	6.3	6.4	191.
8.5	1295.	3337.	-2.2	9.1	9.4	194.





CUL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3154

TE 11/08/76 TIME 14:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
	SFC		12.55		0.0		0.0	0.
1.0	150.	2192	11.73	-0.82	-1.81	1.12	0.3	247.
2.0	? 300.	2342	10.44	-1.29	-1.82	1.11	10.1	251.
3.0	458.	?2500.	9.52	-0.92	-1.64	1.28	8.9	226.
6.3	? 500.	2542	9.34	-0.19	-1.64	1.28	9.4	222.
12.8	958.	?3000.	6.34	-2.99	-2.03	0.89	8.8	217.
19.4	1458.	4000.	1.02	-5.32	-0.38	2.55		
25.7	2958.	5000.	-3.31	-4.34	-2.29	0.64		
	3958.	6000.	-9.87	-6.56	-1.94	0.98		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3154

TE 11/08/76 TIME 14:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
0.0	0.	2042	0.0	0.0	0.0	0.
0.5	76.	2118.	5.5	2.4	6.0	247.
1.0	152.	2194.	5.5	2.4	6.3	247.
1.5	229.	2271.	9.8	3.8	10.5	249.
2.0	305.	2347.	9.5	3.3	10.1	251.
2.5	381.	2423.	7.8	3.9	8.7	244.
3.0	457.	2499.	6.6	6.2	8.8	226.
3.5	533.	2575.	6.6	7.6	9.8	219.
4.0	610.	2652.	4.5	7.9	9.1	210.
4.5	686.	2728.	7.1	8.2	9.4	229.
5.0	762.	2804.	6.6	8.7	10.1	229.
5.5	838.	2880.	6.6	8.7	10.8	217.
6.0	914.	2956.	6.6	7.4	9.6	219.
6.5	991.	3033.	4.9	6.7	8.3	216.
7.0	1067.	3109.	5.8	6.1	8.2	220.
7.5	1143.	3185.	5.8	4.9	7.6	230.
8.0	1219.	3261.	5.5	4.3	6.7	230.
8.5	1295.	3337.	5.5	4.3	6.9	222.
9.0	1372.	3414.	5.5	4.4	7.9	212.
9.5	1448.	3490.	1.1	1.8	2.2	145.
10.0	1524.	3566.	1.1	1.8	2.8	204.
10.5	1600.	3642.	1.1	1.8	4.5	197.
11.0	1676.	3718.	0.0	1.1	5.5	182.
11.5	1753.	3795.	1.1	2.2	5.3	191.
12.0	1829.	3871.	2.0	6.6	7.8	186.
12.5	1905.	3947.	3.3	6.0	6.9	151.





COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3153

TE 11/10/76 TIME 07:15MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
	SFC		6.43		0.0		0.0	0.
1.0	150	2192	6.34	-0.09	-0.93	2.00	2.5	27.
2.0	300	2342	5.58	-0.75	-0.93	2.00	6.0	112.
3.0	458.	2500.	3.79	-1.64	-2.80	0.13	9.6	122.
3.2	500	2542	3.80	-0.15	-2.80	0.13	9.5	124.
6.1	958.	3000.	1.22	-2.19	-2.82	0.11	7.0	157.
12.5	1958.	4000.	-5.75	-7.35	-2.11	0.81	5.5	169.
18.9	2958.	5000.	-13.54	-7.79	-2.94	-0.01		
25.3	3958.	6000.	-19.06	-5.52	-1.99	0.94		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3153

TE 11/10/76 TIME 07:15MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
0.0	0.	2042.	0.0	0.0	0.0	0.
0.5	76.	2118.	0.3	-3.5	3.6	355.
1.0	152.	2194.	-0.7	-2.3	2.4	16.
1.5	229.	2271.	-3.2	-0.1	3.2	88.
2.0	305.	2347.	-5.6	2.5	6.1	114.
2.5	381.	2423.	-4.9	0.3	4.9	93.
3.0	457.	2499.	-8.1	5.1	9.6	122.
3.5	554.	2596.	-7.8	5.5	9.5	125.
4.0	630.	2672.	-7.9	7.1	10.6	132.
4.5	707.	2749.	-6.2	6.9	9.3	138.
5.0	783.	2825.	-4.3	8.4	9.4	153.
5.5	859.	2901.	-2.5	8.3	8.6	163.
6.0	935.	2977.	-3.2	5.6	6.4	150.
6.5	1011.	3053.	-1.2	8.3	8.4	172.
7.0	1088.	3130.	-3.1	5.6	6.4	151.
7.5	1164.	3206.	-0.4	7.0	7.0	177.
8.0	1240.	3282.	-0.4	6.1	6.1	177.
8.5	1316.	3358.	0.1	6.2	6.2	181.
9.0	1392.	3434.	0.3	6.0	6.0	183.
9.5	1469.	3511.	-0.6	6.3	6.4	175.
10.0	1545.	3587.	-0.3	5.8	5.8	177.
10.5	1621.	3663.	-0.7	6.1	6.1	174.
11.0	1697.	3739.	1.1	5.1	5.2	193.
11.5	1785.	3827.	0.0	5.8	5.8	180.
12.0	1882.	3924.	0.3	5.9	5.9	183.
12.5	1958.	4000.	-1.1	5.4	5.5	169.
13.0	2034.	4076.	-0.4	4.3	4.3	174.



COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3160

DATE 11/10/76

TIME 14:00MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
	SFC		8.58		0.0		0.0	0.
1.0	150	2192	8.12	-0.46	-1.84	1.09	6.7	226.
2.0	300	2342	6.72	-1.40	-1.84	1.08	6.8	212.
3.0	458.	2500.	5.21	-1.30	-2.23	0.70	6.5	187.
3.3	500	2542.	5.22	-0.21	-2.23	0.70	6.2	197.
6.3	958.	3000.	1.31	-3.90	-2.26	0.67	4.2	176.
12.8	1958.	4000.	-3.11	-4.43	-2.48	0.45		
18.6	2958.	5000.	-12.34	-9.23	-4.30	-1.38		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3160

DATE 11/10/76

TIME 14:00MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
0.0	0.	2042.	0.0	0.0	0.0	0.
0.5	76.	2118.	2.8	2.1	3.5	233.
1.0	152.	2194.	4.9	4.8	6.8	225.
1.5	229.	2271.	3.9	5.4	6.6	216.
2.0	305.	2347.	3.6	5.8	6.8	212.
2.5	381.	2423.	2.9	5.3	6.0	209.
3.0	457.	2499.	0.7	6.5	6.5	186.
3.5	533.	2575.	2.5	5.3	5.9	205.
4.0	610.	2652.	2.2	5.8	6.2	200.
4.5	686.	2728.	1.4	5.1	5.3	195.
5.0	762.	2804.	0.3	4.9	4.9	183.
5.5	841.	2883.	0.1	4.5	4.5	181.
6.0	917.	2959.	0.2	4.8	4.8	178.
6.5	993.	3035.	0.3	3.6	3.6	175.
7.0	1069.	3111.	0.7	3.8	3.9	170.
7.5	1145.	3187.	0.2	3.7	3.7	177.
8.0	1222.	3264.	0.0	4.9	4.9	180.
8.5	1298.	3340.	0.8	3.9	4.0	169.
9.0	1374.	3416.	1.0	5.0	5.1	169.





COL CB TRACT      ELEV 2042 METERS      SOUNDING ID 3149  
 DATE 11/12/76      TIME 08:15MST      ASCENT RATE 500 FPM      DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
	SFC		-9.08		0.0		0.0	0.
1.0	150	2192	-9.09	-0.01	1.75	4.67	3.0	196.
2.0	300	2342	-8.69	0.40	1.55	4.48	3.4	182.
3.0	458.	2500.	-7.12	1.36	7.11	10.04	3.1	184.
3.3	500	2542	-7.13	0.21	7.11	10.04	3.3	179.
3.5	* 533	2575	-7.12		7.11	10.04		
5.0	* 761	2803	-2.54		0.38	3.31		
6.3	958.	3000.	-3.02	4.11	-0.19	2.74	4.8	305.
12.6	1958.	4000.	-7.61	-4.59	-1.74	1.19		
18.6	2958.	5000.	-13.94	-6.34	0.0	2.93		
25.0	3958.	6000.	-20.87	-6.93	-0.80	2.13		

COL CB TRACT      ELEV 2042 METERS      SOUNDING ID 3149  
 TE 11/12/76      TIME 08:15MST      ASCENT RATE 500 FPM      DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
0.0	0.	2042.	0.0	0.0	0.0	0.
0.5	76.	2118.	0.9	2.5	2.6	200.
1.0	152.	2194.	0.8	2.9	3.0	196.
1.5	229.	2271.	0.2	2.4	2.4	184.
2.0	305.	2347.	0.1	2.5	2.5	182.
2.5	381.	2423.	0.0	3.6	3.6	181.
3.0	457.	2499.	0.2	3.1	3.1	184.
3.3	533.	2575.	-0.3	3.5	3.5	175.
4.0	610.	2652.	1.3	3.4	3.5	194.
4.5	686.	2728.	2.2	2.8	3.6	217.
5.0	762.	2804.	3.1	-0.3	3.1	275.
5.5	838.	2880.	6.0	-2.0	6.3	289.
6.0	914.	2956.	3.6	-1.3	3.9	290.
6.5	991.	3033.	3.9	-4.0	3.6	316.
7.0	1067.	3109.	2.9	-4.1	5.0	325.
7.5	1146.	3188.	1.7	-5.5	5.8	343.
8.0	1222.	3264.	2.1	-1.9	4.8	312.
8.5	1299.	3341.	2.0	-3.8	4.2	333.
9.0	1375.	3417.	0.5	-2.6	2.6	348.
9.5	1451.	3493.	0.1	-3.4	3.4	358.
10.0	1527.	3569.	-1.4	-3.4	3.6	22.
10.5	1603.	3645.	-0.8	-3.5	3.6	13.
11.0	1683.	3725.	1.0	-4.8	4.9	349.
11.5	1778.	3820.	0.6	-3.1	3.2	350.
12.0	1854.	3896.	0.6	-2.6	2.7	347.



COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3147

DATE 11/12/76 TIME 13:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
0.9	SFC		-2.05		0.0		0.0	0.
1.6	150	2192	-3.02	-0.96	-4.20	-1.27	3.5	185.
2.4	300	2342	-4.74	-1.72	-3.84	-0.91	4.4	202.
3.0	458.	2500.	-6.43	-1.66	-3.66	-0.73	3.3	237.
3.6	500	2542	-6.89	-0.50	3.27	6.20	3.0	241.
4.3	* 568	2610	-7.12		3.27	6.20		
5.6	* 758	2800	-2.54		1.33	4.26		
11.9	958.	3000.	-2.83	4.18	-1.91	1.02	1.3	149.
18.2	1458.	?4000.	-9.57	-6.86	-2.72	0.21	9.5	143.
24.1	2958.	5000.	-16.94	-7.37	-2.57	0.36		
	3958.	6000.	-24.02	-7.07	-2.80	0.12		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3147

DATE 11/12/76 TIME 13:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
0.0	0.	2042.	0.0	0.0	0.0	0.
0.5	76.	2118.	0.2	3.1	3.1	183.
1.0	170.	2212.	0.3	3.6	3.6	185.
1.5	286.	2328.	1.4	4.3	4.5	198.
2.0	381.	2423.	2.5	2.6	3.6	224.
2.5	484.	2526.	2.8	1.5	3.3	242.
3.0	568.	2610.	1.9	1.3	2.3	236.
3.5	645.	2687.	1.5	0.3	1.5	260.
4.0	721.	2763.	2.0	-0.0	2.0	271.
4.5	797.	2839.	0.7	0.2	0.7	254.
5.0	873.	2915.	1.0	2.2	2.4	204.
5.5	949.	2991.	-0.7	1.1	1.3	149.
6.0	1026.	3068.	-0.9	1.5	1.8	149.
6.5	1102.	3144.	-2.1	2.0	2.9	133.
7.0	1178.	3220.	-3.5	2.7	4.4	128.
7.5	1254.	3296.	-5.7	3.6	6.7	122.
8.0	1330.	3372.	-8.5	4.1	9.5	116.
8.5	1412.	3454.	-6.4	3.8	7.4	121.
9.0	1492.	3534.	-6.0	3.4	6.9	120.
9.5	1568.	3610.	-6.6	3.0	7.2	115.
10.0	1650.	3692.	-6.8	4.2	8.0	122.
10.5	1738.	3780.	-7.5	5.7	9.4	128.
11.0	1818.	3860.	-5.4	5.0	7.4	133.
11.5	1894.	3936.	-5.8	7.0	9.1	141.
12.0	1972.	4014.	-5.8	7.7	9.6	143.
12.5	2048.	4090.	-4.2	5.3	6.8	142.





COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3148

DATE 11/15/76

TIME 08:30MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
	SFC		-2.92		0.0		0.0	0.
1.0	150.	2192.	-3.12	-0.20	-0.19	2.74	1.4	62.
2.0	300.	2342.	-4.08	-0.96	-2.68	0.25	3.9	35.
3.0	458.	2500.	-5.16	-1.65	-0.38	2.54	4.6	28.
3.3	500.	2542.	-5.20	0.53	-0.38	2.54	5.3	26.
6.2	958.	3000.	-8.10	-2.90	-0.77	2.15	12.4	11.
12.8	1958.	4000.	-8.12	-0.02	1.16	4.09		
19.0	2958.	5000.	-15.63	-7.52	-3.35	-0.42		
25.1	3958.	6000.	-23.00	-7.37	-4.40	-1.47		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3148

DATE 11/15/76

TIME 08:30MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
0.0	0.	2042.	0.0	0.0	0.0	0.
0.5	76.	2118.	-0.9	-0.2	0.9	75.
1.0	152.	2194.	-1.3	-0.7	1.4	61.
1.5	229.	2271.	-1.5	-1.4	2.0	47.
2.0	305.	2347.	-2.3	-3.4	4.0	34.
2.5	381.	2423.	-2.1	-4.1	4.6	28.
3.0	457.	2499.	-2.2	-4.1	4.6	29.
3.5	533.	2575.	-2.4	-5.4	5.9	24.
4.0	610.	2652.	-2.5	-8.4	8.7	17.
4.5	686.	2728.	-0.1	-10.1	10.1	1.
5.0	762.	2804.	-1.0	-10.9	11.0	5.
5.5	844.	2886.	-1.5	-13.4	13.7	10.
6.0	920.	2962.	-2.3	-12.6	12.8	10.
6.5	996.	3038.	-2.3	-11.6	11.9	11.
7.0	1073.	3115.	-2.8	-8.5	8.9	18.
7.5	1149.	3191.	-3.7	-8.0	8.8	25.
8.0	1225.	3267.	-3.7	-7.0	7.9	28.
8.5	1301.	3343.	-2.3	-6.8	7.1	19.
9.0	1377.	3419.	-2.5	-5.9	6.5	23.
9.5	1454.	3496.	-2.8	-6.6	7.1	23.
10.0	1530.	3572.	-2.2	-7.6	7.9	16.
10.5	1612.	3654.	-2.1	-9.2	9.4	13.
11.0	1690.	3732.	-1.3	-12.0	12.1	6.
11.5	1766.	3808.	-1.5	-9.4	9.5	9.
12.0	1842.	3884.	-1.7	-10.6	10.8	9.
12.5	1919.	3961.	-1.5	-5.2	5.4	16.



COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3152

DATE 11/15/76

TIME 14:30MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
0.9	SFC	2192	3.50		0.0		0.0	0.
1.9	150	2342	2.02	-1.48	-3.00	-0.07	2.3	97.
2.9	300	2500.	0.93	-1.09	-1.88	1.04	2.4	153.
3.1	458.	2542.	-0.61	-1.51	-4.17	-1.24	2.0	190.
5.8	500	3000.	-1.24	-0.66	-4.18	-1.25	1.9	206.
12.3	958.	4000.	-5.16	-3.90	-1.73	1.20	4.8	256.
18.8	1958.	5000.	-9.77	-4.62	-3.31	-0.38	14.7	155.
	2958.		-15.04	-5.27	-1.38	1.55		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3152

DATE 11/15/76

TIME 14:30MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
0.0	0.	2042.	0.0	0.0	0.0	0.
0.5	76.	2118.	-2.7	0.5	2.8	101.
1.0	162.	2204.	-2.3	0.3	2.3	97.
1.5	238.	2280.	-1.1	1.0	1.5	133.
2.0	314.	2356.	-1.0	2.4	2.6	158.
2.5	391.	2433.	-0.9	1.5	1.8	150.
3.0	477.	2519.	0.8	1.9	2.1	202.
3.5	588.	2630.	0.8	1.0	1.3	221.
4.0	689.	2731.	1.5	0.8	1.7	241.
4.5	766.	2808.	1.8	1.5	2.4	230.
5.0	842.	2884.	3.1	2.1	3.8	236.
5.5	918.	2960.	4.2	2.2	4.8	243.
6.0	995.	3037.	4.8	0.2	4.9	268.
6.5	1071.	3113.	5.4	-0.3	5.4	273.
7.0	1147.	3189.	6.8	-1.5	7.0	283.
7.5	1223.	3265.	5.1	-2.8	5.8	299.
8.0	1305.	3347.	6.1	-5.4	8.1	312.
8.5	1381.	3423.	5.9	-6.4	8.7	318.
9.0	1458.	3500.	6.7	-8.3	10.7	321.
9.5	1534.	3576.	5.2	-8.5	10.0	328.
10.0	1610.	3652.	4.4	-8.9	10.0	334.
10.5	1686.	3728.	7.1	-8.8	11.3	321.
11.0	1762.	3804.	2.6	-16.1	16.3	351.
11.5	1839.	3881.	2.1	-15.1	15.3	352.
12.0	1915.	3957.	1.7	-16.7	16.8	354.
12.5	1991.	4033.	-0.6	-13.2	13.2	3.





COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3150

DATE 11/16/76 TIME 08:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
	SFC		0.07		0.0		0.0	0.
1.0	150.	2192.	-0.22	-0.29	-0.38	2.55	2.9	319.
2.0	300.	2342.	-1.18	-0.96	-3.79	-0.87	4.6	344.
2.9	458.	2500.	-2.83	-1.63	-2.10	0.83	7.3	351.
3.2	500.	2542.	-3.02	-0.21	-2.67	0.25	7.0	232.
5.4	958.	3000.	-7.70	-4.68	-4.25	-1.33	13.0	348.
11.6	1958.	4000.	-15.14	-7.44	-0.39	2.53	M	M
18.1	2958.	5000.	-16.04	-0.91	0.99	3.91		
23.9	3958.	6000.	-24.11	-8.07	-6.01	-3.08		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3150

DATE 11/16/76 TIME 08:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
0.0	0.	2042.	0.0	0.0	0.0	0.
0.5	76.	2118.	2.5	0.3	2.5	264.
1.0	152.	2194.	1.8	-2.2	2.9	320.
1.5	229.	2271.	1.2	-2.6	2.9	335.
2.0	305.	2347.	1.3	-4.5	4.7	344.
2.5	392.	2434.	1.6	-5.6	5.8	344.
3.0	474.	2516.	1.0	-7.6	7.6	352.
3.5	550.	2592.	-0.3	-5.8	5.8	3.
4.0	632.	2674.	0.4	-6.2	6.2	350.
4.5	729.	2771.	1.2	-7.4	7.5	351.
5.0	851.	2893.	1.0	-12.4	12.4	355.
5.5	974.	3016.	2.9	-12.8	13.1	347.
6.0	1077.	3119.	2.4	-13.6	13.8	350.
6.5	1155.	3197.	2.4	-13.9	14.2	350.
7.0	1233.	3275.	3.2	-16.3	16.6	349.
7.5	1313.	3355.	2.2	-16.2	16.4	352.
8.0	1389.	3431.	1.3	-13.2	13.3	354.
8.5	1466.	3508.	-0.0	-11.7	11.7	0.
9.0	1542.	3584.	-0.2	-12.2	12.2	1.
9.5	1618.	3660.	0.6	-11.5	11.6	357.
10.0	1694.	3736.	1.0	-13.1	13.2	356.
10.5	1784.	3826.	-0.3	-15.5	15.5	1.
11.0	1873.	3915.	0.6	-16.2	16.2	358.
11.5	1950.	3992.	1.5	-15.3	15.4	354.





COL CB TRACT ELEV 2042 METERS SOUNDING ID 3145  
 DATE 11/16/76 TIME 14:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
0.7	SFC		9.05		0.0		2.6	45.
1.0	150	2192	4.41	-4.63	-5.04	-2.11	2.5	14.
1.8	300	2342	3.34	-1.07	-3.75	-0.82	2.0	16.
2.0	458.	2500.	1.60	-1.69	-3.38	-0.45	2.9	20.
2.3	500	2542.	1.60	-0.06	-3.38	-0.45	2.1	18.
2.6	958.	3000.	-3.21	-4.80	-4.01	-1.08	2.5	352.
3.0	1958.	4000.	-7.41	-4.21	0.19	3.12	24.2	281.
15.7	2958.	5000.	-12.95	-5.54	2.93	5.86		
22.0	3958.	6000.	-18.05	-5.10	-2.97	-0.04		

COL CB TRACT ELEV 2042 METERS SOUNDING ID 3145  
 DATE 11/16/76 TIME 14:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
0.0	0.	2042.	-1.8	-1.8	2.6	45.
0.5	76.	2118.	-0.3	-1.2	1.3	12.
1.0	295.	2337.	-1.4	-4.8	5.0	16.
1.5	407.	2449.	-1.4	-3.6	3.8	21.
2.0	502.	2544.	-0.6	-2.0	2.1	18.
2.5	583.	2625.	-0.9	-1.3	1.6	33.
3.0	659.	2701.	-1.7	-0.3	1.7	79.
3.5	755.	2797.	-1.1	-0.8	1.4	54.
4.0	878.	2920.	0.7	-2.5	2.7	344.
4.5	994.	3036.	0.2	-2.5	2.5	356.
5.0	1106.	3148.	0.5	-2.3	2.4	349.
5.5	1245.	3287.	1.0	-3.8	3.9	346.
6.0	1377.	3419.	0.6	-4.0	4.0	352.
6.5	1485.	3527.	1.5	-3.8	4.0	338.
7.0	1561.	3603.	2.7	-3.8	4.7	325.
7.5	1637.	3679.	4.7	-7.4	8.8	328.
8.0	1713.	3755.	1.2	-16.5	16.5	356.
8.5	1789.	3831.	7.7	-19.3	20.8	338.
9.0	1866.	3908.	1.5	-19.5	19.6	356.
9.5	1942.	3984.	1.8	-25.8	25.9	356.
10.0	2018.	4060.	-0.2	-17.9	17.9	1.
10.5	2094.	4136.	-1.3	-22.1	22.1	3.
11.0	2170.	4212.	-4.0	-20.8	21.2	11.
11.5	2247.	4289.	-4.0	-16.1	16.6	14.
12.0	2323.	4365.	-4.8	-15.1	15.8	18.
12.5	2403.	4445.	-4.3	-16.5	17.0	15.
13.0	2483.	4525.	-5.7	-13.3	14.5	23.



COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3146

DATE 11/18/76 TIME 08:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
	SFC		2.74		0.0		M	M
1.0	150	2192	5.20	2.45	3.35	6.28	2.6	179.
1.5	* 228	2270	5.58		0.56	3.48		
2.0	300	2342	5.49	0.29	-1.49	1.44	4.0	165.
2.5	458.	2500.	3.88	-1.30	-1.68	1.25	2.8	148.
3.0	500	2542.	3.90	-0.29	-1.68	1.25	2.9	130.
3.5	958.	3000.	1.98	-1.91	-1.50	1.43	2.7	225.
4.0	1958.	4000.	-2.73	-4.72	-2.29	0.64	2.4	301.
4.5	2958.	5000.	-9.57	-6.85	-2.33	0.60		
5.0	3958.	6000.	-17.04	-7.47	-2.37	0.56		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3146

DATE 11/18/76 TIME 08:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
THE WIND DATA ARE MISSING						
0.5	76.	2118.	0.0	1.4	1.4	182.
1.0	152.	2194.	-0.1	2.6	2.6	179.
1.5	229.	2271.	-0.6	5.3	5.3	174.
2.0	305.	2347.	-1.1	3.8	3.9	164.
2.5	381.	2423.	-1.2	3.1	3.3	158.
3.0	457.	2499.	-1.5	2.4	2.8	148.
3.5	533.	2575.	-2.7	1.2	2.9	115.
4.0	610.	2652.	1.7	2.1	2.7	219.
4.5	686.	2728.	0.3	1.5	1.5	191.
5.0	762.	2804.	1.2	0.8	1.4	238.
5.5	838.	2880.	1.3	0.6	1.4	244.
6.0	914.	2956.	1.7	0.8	1.9	244.
6.5	991.	3033.	1.7	0.9	3.4	210.
7.0	1067.	3109.	0.4	0.8	0.9	204.
7.5	1143.	3185.	0.6	2.1	2.2	196.
8.0	1219.	3261.	0.3	2.4	2.4	187.
8.5	1295.	3337.	0.2	1.8	1.8	186.
9.0	1372.	3414.	0.6	3.2	3.2	190.
9.5	1448.	3490.	0.2	1.2	1.2	192.
10.0	1524.	3566.	2.2	1.5	2.7	236.
10.5	1600.	3642.	2.6	0.2	2.6	275.
11.0	1676.	3718.	1.4	3.5	3.8	338.
11.5	1753.	3795.	1.5	2.3	2.7	328.
12.0	1829.	3871.	1.3	1.5	2.0	318.
12.5	1905.	3947.	2.3	1.9	2.9	310.
13.0	1981.	4023.	2.0	1.0	2.2	297.
13.5	2057.	4099.	3.7	1.0	3.8	286.
14.0	2134.	4176.	2.2	0.2	2.2	265.





COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3143

ATE 11/18/76

TIME 12:40MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
	SFC		12.83		0.0		4.1	225.
0.9	150	2192	10.51	-2.31	-3.64	-0.71	4.7	303.
1.7	300	2342	9.24	-1.27	-4.22	-1.29	3.6	280.
2.4	458.	2500.	7.37	-1.84	-3.68	-0.75	3.6	294.
2.6	500	2542.	6.84	-0.56	-1.84	1.08	4.1	311.
3.5	958.	3000.	4.64	-2.11	-1.86	1.07	5.1	5.
12.0	1958.	4000.	-1.76	-6.50	-2.09	0.84	1.1	278.
18.5	2958.	5000.	-7.21	-5.45	-3.48	-0.55		
24.6	3958.	6000.	-16.33	-9.12	-3.94	-1.01		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3143

ATE 11/18/76

TIME 12:40MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WND SPEED M/S	WND DIR DEG
0.0	0.	2042.	2.9	2.9	4.1	225.
0.5	76.	2118.	3.9	-1.2	4.1	287.
1.0	174.	2216.	3.8	-3.0	4.9	308.
1.5	264.	2306.	3.9	-1.4	4.1	290.
2.0	376.	2418.	2.4	0.5	2.4	259.
2.5	490.	2532.	3.3	-2.4	4.1	307.
3.0	575.	2617.	1.4	-4.1	4.3	341.
3.5	651.	2693.	1.0	-4.1	4.2	346.
4.0	727.	2769.	0.7	-5.1	5.2	352.
4.5	803.	2845.	0.6	-5.1	5.1	353.
5.0	879.	2921.	-0.2	-4.4	4.4	2.
5.5	956.	2998.	-0.4	-5.1	5.1	5.
6.0	1032.	3074.	-1.0	-4.1	4.2	14.
6.5	1108.	3150.	-2.5	-1.3	2.9	63.
7.0	1191.	3233.	-0.3	-0.5	0.6	29.
7.5	1274.	3316.	-0.9	-0.7	1.1	51.
8.0	1353.	3395.	-0.7	-0.7	1.0	46.
8.5	1429.	3471.	-0.7	-0.4	0.8	57.
9.0	1505.	3547.	-0.9	-0.9	1.3	44.
9.5	1582.	3624.	0.5	-2.0	2.1	346.
10.0	1658.	3700.	1.6	-2.2	2.8	324.
10.5	1734.	3776.	3.0	-3.0	4.3	315.
11.0	1810.	3852.	4.6	-0.7	4.6	279.
11.5	1886.	3928.	1.2	-0.1	1.2	264.
12.0	1963.	4005.	1.1	-0.2	1.1	279.





COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3142

DATE 11/19/76

TIME 07:30MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
	SFC		1.69		0.0		M	M
1.0	150	2192	3.49	1.80	1.87	4.80	1.4	232.
1.3	* 190	2232	3.69		1.31	4.24		
2.0	300	2342	3.41	-0.08	-0.56	2.37	2.0	282.
3.0	458.	2500.	3.22	-0.02	-0.75	2.18	2.1	284.
3.3	500.	2542.	3.23	-0.16	-0.75	2.18	1.8	277.
6.3	958.	3000.	2.08	-1.16	1.31	4.24	4.2	229.
12.8	1958.	4000.	-1.86	-3.92	-3.80	-0.87	12.6	313.
18.6	2958.	5000.	-10.66	-8.81	-1.75	1.18		
25.0	3958.	6000.	-16.34	-5.68	-4.73	-1.80		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3142

DATE 11/19/76

TIME 07:30MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
			THE WIND DATA ARE MISSING			
0.5	76.	2118.	0.7	1.0	1.2	214.
1.0	152.	2194.	1.1	0.9	1.4	233.
1.5	229.	2271.	1.7	0.8	1.8	245.
2.0	305.	2347.	1.9	-0.5	2.0	285.
2.5	381.	2423.	2.0	-0.6	2.1	287.
3.0	457.	2499.	2.1	-0.5	2.1	284.
3.5	533.	2575.	1.5	-0.0	1.5	271.
4.0	610.	2652.	1.3	1.3	1.8	226.
4.5	686.	2728.	1.0	1.4	1.7	217.
5.0	762.	2804.	1.3	2.5	2.9	208.
5.5	838.	2880.	0.9	3.0	3.1	197.
6.0	914.	2956.	2.6	2.9	3.9	221.
6.5	991.	3033.	3.7	2.6	4.5	235.
7.0	1067.	3109.	4.2	0.2	4.2	268.
7.5	1143.	3185.	4.2	-1.3	4.4	287.
8.0	1219.	3261.	4.4	-2.1	4.9	296.
8.5	1295.	3337.	4.4	-3.5	5.6	308.
9.0	1372.	3414.	6.9	-5.4	8.7	308.
9.5	1448.	3490.	7.2	-5.0	8.7	305.
10.0	1524.	3566.	8.2	-5.2	9.7	303.
10.5	1600.	3642.	8.4	-5.8	10.2	305.
11.0	1676.	3718.	8.0	-6.9	10.6	311.
11.5	1753.	3795.	8.8	-8.7	12.4	315.
12.0	1829.	3871.	9.5	-7.9	12.8	310.
12.5	1905.	3947.	8.4	-9.6	12.8	319.
13.0	1987.	4029.	9.6	-7.9	12.4	310.



COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3142

ATE 11/19/76

TIME 12:30MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
	SFC		13.92		0.0		2.6	320.
0.7	150	2192	11.75	-2.18	-5.46	-2.53	5.8	332.
1.1	300	2342	9.39	-2.35	-5.31	-2.38	7.5	322.
1.6	458.	2500.	7.55	-1.56	-5.52	-2.59	4.1	294.
1.8	500	2542.	7.57	-0.27	-5.52	-2.59	3.3	293.
4.2	958.	3000.	3.98	-3.89	-1.30	1.62	4.5	211.
10.6	1958.	4000.	-2.83	-6.31	-2.86	0.07	10.0	289.
17.0	2958.	5000.	-8.59	-6.26	-2.71	0.22		
23.5	3958.	6000.	-15.44	-6.85	-2.95	-0.03		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3142

ATE 11/19/76

TIME 12:30MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
0.0	0.	2042.	1.7	-2.0	2.6	320.
0.5	76.	2118.	1.9	-3.5	4.0	332.
1.0	256.	2298.	4.1	-7.4	8.5	331.
1.5	424.	2466.	4.3	-2.0	4.7	295.
2.0	548.	2590.	2.3	-0.9	2.4	291.
2.5	665.	2707.	2.2	0.4	2.3	260.
3.0	768.	2810.	3.2	2.7	4.2	230.
3.5	846.	2888.	1.0	0.8	1.3	230.
4.0	922.	2964.	2.2	3.3	4.0	214.
4.5	999.	3041.	2.3	4.5	5.1	207.
5.0	1075.	3117.	3.4	4.0	5.2	220.
5.5	1151.	3193.	4.5	1.8	4.8	249.
6.0	1227.	3269.	3.8	-0.3	3.9	274.
6.5	1303.	3345.	3.2	-1.3	3.5	292.
7.0	1380.	3422.	3.3	-3.4	4.7	316.
7.5	1456.	3498.	4.9	-3.7	6.1	307.
8.0	1532.	3574.	5.0	-1.2	5.1	283.
8.5	1608.	3650.	6.7	-2.2	7.1	288.
9.0	1684.	3726.	7.7	-2.3	8.1	286.
9.5	1761.	3803.	7.7	-2.3	8.0	287.
10.0	1837.	3879.	8.1	-2.8	8.6	289.
10.5	1936.	3978.	9.4	-3.0	9.9	287.
11.0	2030.	4072.	9.6	-4.2	10.4	294.
11.5	2106.	4148.	11.7	-6.6	13.5	299.
12.0	2185.	4227.	10.1	-6.1	11.8	301.
12.5	2270.	4312.	11.5	-8.2	14.1	306.
13.0	2346.	4388.	11.8	-9.8	15.4	310.
13.5	2422.	4464.	10.9	-10.0	14.8	312.
14.0	2502.	4544.	11.9	-11.4	16.5	314.





COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3144

ATE 11/22/76 TIME 07:20MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
	SFC		1.79		0.0		0.0	0.
1.0	150	2192	2.84	1.05	2.06	4.99	1.7	205.
2.0	300	2342	2.93	0.10	-0.75	2.18	1.7	207.
3.0	458.	2500.	1.79	-0.95	-1.88	1.05	1.6	232.
3.3	500	2542.	1.80	-0.18	-1.88	1.05	1.4	232.
6.3	958.	3000.	-1.38	-3.16	-3.60	-0.68	4.3	307.
12.6	1958.	4000.	-10.07	-8.32	-2.92	0.01	12.2	299.
18.7	2958.	5000.	-17.85	-8.18	-1.78	1.15		
25.0	3958.	6000.	-23.92	-6.07	-3.80	-0.88		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3144

ATE 11/22/76 TIME 07:20MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
0.0	0.	2042.	0.0	0.0	0.0	0.
0.5	76.	2118.	0.3	0.9	0.9	196.
1.0	152.	2194.	0.8	1.6	1.8	205.
1.5	229.	2271.	1.1	1.5	1.8	216.
2.0	305.	2347.	0.7	1.5	1.7	206.
2.5	381.	2423.	0.4	1.4	1.5	198.
3.0	457.	2499.	1.3	1.0	1.6	232.
3.5	533.	2575.	1.0	0.8	1.3	232.
4.0	610.	2652.	0.9	0.5	1.1	240.
4.5	686.	2728.	1.8	0.3	1.8	280.
5.0	762.	2804.	2.8	-1.4	3.2	297.
5.5	838.	2880.	2.8	-1.6	3.2	299.
6.0	915.	2957.	4.3	-2.7	5.1	302.
6.5	996.	3038.	2.8	-2.5	3.7	312.
7.0	1080.	3122.	5.3	-4.1	6.7	307.
7.5	1156.	3198.	5.1	-4.4	6.7	311.
8.0	1232.	3274.	7.4	-5.7	9.3	307.
8.5	1309.	3351.	8.1	-6.4	10.3	308.
9.0	1385.	3427.	8.7	-7.6	11.5	311.
9.5	1462.	3504.	8.7	-7.9	11.8	312.
10.0	1539.	3581.	7.7	-7.4	10.7	314.
10.5	1621.	3663.	9.1	-9.3	13.0	316.
11.0	1698.	3740.	9.5	-8.3	12.6	311.
11.5	1774.	3816.	10.5	-7.8	13.1	306.
12.0	1851.	3893.	9.6	-5.6	11.1	300.
12.5	1937.	3979.	11.2	-6.2	12.8	299.
13.0	2023.	4065.	8.9	-4.9	10.2	294.
13.5	2099.	4141.	9.7	-4.6	10.7	295.





COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3140

ATE 11/22/76

TIME 13:45MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
	SFC		7.46		0.0		0.0	0.
1.0	150	2192	6.43	-1.03	-1.48	1.45	2.8	294.
2.0	300	2342	5.58	-0.84	-2.23	0.70	5.2	282.
3.0	458.	2500.	3.88	-1.70	-2.42	0.50	4.9	272.
3.2	500	2542.	3.44	-0.45	-2.62	0.31	4.8	266.
6.1	958.	3000.	-1.28	-4.03	-3.41	-0.48	6.5	253.
10.7	1958.	4000.	-11.06	-9.96	-3.90	-0.97	10.8	288.
16.4	2958.	5000.	-17.95	-7.39	-0.99	-1.94		
22.3	3958.	6000.	-25.94	-8.00	-5.23	-2.30		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3140

ATE 11/22/76

TIME 13:45MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WND SPEED M/S	WND DIR DEG
0.0	0.	2042.	0.0	0.0	0.0	0.
0.5	76.	2118.	2.4	-1.3	2.7	299.
1.0	152.	2194.	2.6	-1.1	2.8	294.
1.5	229.	2271.	4.5	-1.2	4.6	285.
2.0	305.	2347.	5.2	-1.1	5.3	282.
2.5	381.	2423.	5.3	-0.5	5.3	276.
3.0	462.	2504.	4.8	-0.1	4.8	272.
3.5	545.	2587.	4.6	0.8	4.6	260.
4.0	621.	2663.	4.3	1.8	4.6	247.
4.5	697.	2739.	4.1	1.7	4.4	247.
5.0	778.	2820.	5.9	1.9	6.2	252.
5.5	867.	2909.	6.6	2.2	7.0	252.
6.0	943.	2985.	6.1	1.9	6.4	252.
6.5	1027.	3069.	6.7	1.7	6.9	256.
7.0	1123.	3165.	7.6	1.8	7.8	257.
7.5	1215.	3257.	6.7	1.4	6.8	259.
8.0	1319.	3361.	8.1	1.0	8.1	263.
8.5	1463.	3505.	11.9	0.3	11.9	269.
9.0	1607.	3649.	11.6	-0.4	11.7	272.
9.5	1704.	3746.	8.8	-1.6	9.0	280.
10.0	1807.	3849.	10.2	-2.1	10.4	282.
10.5	1918.	3960.	9.8	-2.1	10.1	282.
11.0	2018.	4060.	10.6	-5.6	12.0	298.
11.5	2130.	4172.	12.4	-7.9	14.7	303.
12.0	2207.	4249.	8.6	-6.7	10.9	308.
12.5	2284.	4326.	8.5	-8.0	11.6	313.



COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3136

TE 11/24/76

TIME 08:30MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
	SFC		2.74		0.0			
1.0	150	2192	2.55	-0.19	0.56	3.49	M	M
2.0	300	2342	2.08	-0.47	-1.31	1.62	M	M
3.0	458	2500	1.79	-0.29	-1.50	1.43	M	M
3.3	500	2542	1.61	-0.18	-1.50	1.42	M	M
6.3	958	3000	-1.47	-3.08	-1.33	1.60	4.4	248
12.6	1958	4000	-9.58	-7.61	-1.94	0.99	11.2	263
18.5	2958	5000	-16.94	-7.86	-0.99	1.94		
24.0	3958	6000	-26.16	-9.21	-5.41	-0.49		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3136

TE 11/24/76

TIME 08:30MST

ASCENT RATE 500 FPM

DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
			THE WIND DATA ARE MISSING			
			THE WIND DATA ARE MISSING			
			THE WIND DATA ARE MISSING			
			THE WIND DATA ARE MISSING			
			THE WIND DATA ARE MISSING			
			THE WIND DATA ARE MISSING			
			THE WIND DATA ARE MISSING			
			THE WIND DATA ARE MISSING			
5.0	762	2804	4.0	2.8	4.9	235
5.5	838	2880	4.4	2.8	5.3	237
6.0	915	2957	4.5	1.9	4.8	247
6.5	991	3033	3.8	1.5	4.0	248
7.0	1067	3109	4.1	1.7	4.4	247
7.5	1143	3185	4.3	2.2	4.8	243
8.0	1219	3261	5.2	1.4	5.4	254
8.5	1296	3338	5.4	1.0	5.5	259
9.0	1372	3414	5.4	1.3	5.5	257
9.5	1448	3490	6.3	-0.0	6.3	270
10.0	1524	3566	5.3	1.4	5.5	250
10.5	1600	3642	10.1	-1.1	10.2	276
11.0	1703	3745	11.1	0.7	11.1	266
11.5	1779	3821	10.3	0.9	10.3	265
12.0	1855	3897	11.3	0.6	11.3	267
12.5	1943	3985	11.7	1.5	11.8	263
13.0	2020	4062	8.8	1.4	8.9	261





COL CB TRACT ELEV 2042 METERS SOUNDING ID 3138  
 DATE 11/24/76 TIME 14:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
	SFC		12.37		0.0		0.0	0.
0.9	150.	2192.	10.17	-2.20	-2.92	0.01	4.1	216.
1.6	300.	2342.	8.29	-1.89	-4.59	-1.67	4.5	208.
2.3	458.	2500.	6.71	-1.53	-4.43	-1.51	5.6	215.
2.5	500.	2542.	6.12	-0.64	-4.64	-1.71	5.9	214.
4.9	958.	3000.	2.08	-4.03	-3.94	-1.02	1.4	203.
10.8	1958.	4000.	-4.67	-6.75	-2.30	0.63	5.1	262.
16.6	2958.	5000.	-14.14	-9.47	-2.55	0.37		
22.2	3958.	6000.	-24.12	-9.98	-4.01	-1.08		

COL CB TRACT ELEV 2042 METERS SOUNDING ID 3138  
 DATE 11/24/76 TIME 14:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
0.0	0.	2042.	0.0	0.0	0.0	0.
0.5	76.	2118.	2.0	2.5	3.2	218.
1.0	180.	2222.	2.5	3.7	4.5	214.
1.5	269.	2311.	1.8	3.8	4.5	206.
2.0	386.	2428.	3.0	4.2	5.2	215.
2.5	498.	2540.	3.3	4.8	5.9	214.
3.0	613.	2655.	3.4	4.3	5.5	219.
3.5	726.	2768.	3.0	3.8	4.9	219.
4.0	811.	2853.	1.7	2.6	3.1	214.
4.5	887.	2929.	1.6	2.7	3.1	211.
5.0	980.	3022.	0.3	0.8	0.8	200.
5.5	1076.	3118.	1.8	0.7	2.0	249.
6.0	1169.	3211.	2.2	0.1	2.2	267.
6.5	1263.	3305.	2.1	0.2	2.2	274.
7.0	1347.	3389.	2.4	0.3	2.4	278.
7.5	1444.	3486.	2.7	0.3	2.7	263.
8.0	1520.	3562.	2.0	0.9	2.2	294.
8.5	1597.	3639.	2.6	1.2	2.9	294.
9.0	1673.	3715.	2.4	0.8	2.6	251.
9.5	1753.	3795.	3.9	0.0	3.9	270.
10.0	1829.	3871.	4.0	0.6	4.1	261.
10.5	1905.	3947.	4.8	1.2	4.9	256.
11.0	1982.	4024.	5.2	0.5	5.2	265.
11.5	2061.	4103.	6.0	0.7	6.0	263.
12.0	2146.	4188.	7.2	0.0	7.2	270.
12.5	2239.	4281.	7.9	0.2	7.9	271.
13.0	2347.	4389.	9.3	0.1	9.3	271.





COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3137

TE 11/29/76 TIME 08:25MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
0.8	SFC		-9.87		0.0		0.0	0.
1.8	150	2192	-12.22	-2.34	-2.35	0.58	M	M
2.8	300	2342	-13.13	-0.92	-0.20	2.73	M	M
3.1	458.	2500.	-12.75	0.39	-0.20	2.73	M	M
6.0	500	2542.	-12.84	-0.10	-1.57	1.36	M	M
8.0	958.	3000.	-16.34	-3.50	0.0	2.93	M	M
9.8	*1278	3320	-18.05		1.19	4.11		
12.3	*1545	3587	-15.04		0.59	3.52		
18.2	1958.	4000.	-18.95	-2.61	-2.78	0.15		
	2958.	5000.	-26.77	-7.82	-1.81	1.12		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 3137

TE 11/29/76 TIME 08:25MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
0.0	0.	2042.	0.0	0.0	0.0	0.



COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 2867

TE 11/29/76 TIME 14:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
0.9	SFC		0.83		0.0		5.1	315.
1.7	150	2192	-1.23	-2.06	-3.79	-0.87	3.1	324.
2.3	300	2342	-2.80	-1.56	-4.77	-1.85	4.4	330.
2.5	458.	2500.	-4.67	-1.81	-6.91	-3.98	5.6	335.
2.5	500	2542	-4.66	-0.06	-6.91	-3.98	5.9	338.
4.0	958.	3000.	-9.08	-4.42	-2.72	0.21	7.4	305.
9.9	1958.	4000.	-16.84	-7.76	-1.58	1.35	10.3	305.
16.3	2958.	5000.	-20.37	-3.53	0.0	2.93		
20.5	3958.	6000.	-29.54	-9.16	-2.62	0.30		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 2867

TE 11/29/76 TIME 14:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WND SPEED M/S	WND DIR DEG
0.0	0.	2042.	3.6	-3.6	5.1	315.
0.5	76.	2118.	1.9	-3.4	3.9	331.
1.0	172.	2214.	1.8	-2.2	2.8	321.
1.5	269.	2311.	2.1	-3.6	4.1	330.
2.0	370.	2412.	2.5	-4.3	4.9	330.
2.5	509.	2551.	2.2	-5.6	6.0	339.
3.0	685.	2727.	2.0	-4.8	5.2	338.
3.5	851.	2893.	2.5	-4.5	5.2	331.
4.0	952.	2994.	6.2	-4.1	7.4	304.
4.5	1028.	3070.	5.1	-5.2	7.3	316.
5.0	1111.	3153.	3.9	-6.2	7.3	328.
5.5	1227.	3269.	6.0	-9.7	11.4	329.
6.0	1346.	3388.	5.7	-9.6	11.2	330.
6.5	1436.	3478.	4.3	-8.9	9.9	334.
7.0	1514.	3556.	3.6	-7.8	8.5	335.
7.5	1590.	3632.	3.7	-4.3	5.6	319.
8.0	1667.	3709.	4.4	-4.5	6.2	316.
8.5	1743.	3785.	6.6	-6.1	9.0	313.
9.0	1823.	3865.	7.0	-6.1	9.3	311.
9.5	1900.	3942.	8.5	-6.0	10.4	305.
10.0	1976.	4018.	8.5	-5.9	10.3	305.
10.5	2052.	4094.	7.1	-7.7	10.5	318.
11.0	2128.	4170.	7.2	-11.5	13.6	328.
11.5	2204.	4246.	5.7	-5.3	7.8	313.
12.0	2281.	4323.	9.4	-7.2	11.8	308.





COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 2865

TE 11/30/76 TIME 08:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
	SFC		-1.09		0.0		2.8	45.
0.9	150.	2192.	-3.03	-1.94	0.0	2.93	2.5	154.
1.9	300.	2342.	-4.06	-1.03	-3.83	-0.90	2.1	211.
2.6	458.	2500.	-6.43	-2.01	-2.89	0.04	2.0	216.
3.8	500.	2542.	-6.41	-0.35	-2.89	0.04	2.1	224.
5.8	958.	3000.	-7.61	-1.18	-3.09	-0.17	7.9	285.
12.2	1958.	4000.	-13.74	-6.15	-2.94	-0.02		
18.5	2958.	5000.	-22.58	-8.84	-5.99	-3.06		
23.4	3958.	6000.	-31.08	-8.49	-3.44	-0.51		

COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 2865

TE 11/30/76 TIME 08:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
0.0	0.	2042.	-2.0	-2.0	2.8	45.
0.5	76.	2118.	-1.0	-0.6	1.2	57.
1.0	163.	2205.	-0.4	2.7	2.7	171.
1.5	239.	2281.	1.0	1.9	2.1	208.
2.0	325.	2367.	1.2	1.8	2.1	213.
2.5	435.	2477.	1.0	1.6	1.9	212.
3.0	532.	2574.	1.7	1.4	2.1	231.
3.5	608.	2650.	4.1	2.6	4.9	238.
4.0	684.	2726.	6.1	1.9	6.4	253.
4.5	760.	2802.	3.0	1.3	3.3	246.
5.0	830.	2878.	3.5	1.0	3.6	254.
5.5	913.	2955.	7.4	1.7	7.6	283.
6.0	989.	3031.	7.8	2.3	8.2	287.
6.5	1075.	3117.	7.5	2.5	8.0	289.
7.0	1151.	3193.	9.2	3.0	7.8	293.
7.5	1227.	3269.	9.7	5.9	11.4	301.
8.0	1303.	3345.	8.7	5.9	10.5	304.
8.5	1385.	3427.	8.9	4.7	10.0	296.
9.0	1461.	3503.	7.7	5.1	9.2	304.
9.5	1537.	3579.	7.8	7.0	10.5	312.
10.0	1613.	3655.	9.1	8.1	12.2	312.
10.5	1690.	3732.	10.2	9.6	14.0	313.
11.0	1766.	3808.	10.8	11.6	15.9	317.





COL CB TRACT

ELEV 2042 METERS

SOUNDING ID 2863

TE 11/30/76 TIME 13:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	TEMP DEG C	D/T STD	D/T 300M	D/T LAPSE	WS M/S	WD DEG
0.8	SFC		4.64		0.0		0.0	0.
1.4	150	2192	2.20	-2.44	-4.88	-1.95	M	M
2.2	300	2342	0.85	-1.35	-3.77	-0.84	M	M
2.4	458.	2500.	-0.31	-1.16	-4.36	-1.43	M	M
2.4	500	2542	-1.06	-0.75	-4.55	-1.62	M	M
4.9	958.	3000.	-4.68	-3.61	0.57	3.50	M	M
11.1	1958.	4000.	-9.68	-5.00	-1.56	1.37	M	M
17.4	2958.	5000.	-17.04	-7.36	-2.17	0.75		
22.9	3958.	6000.	-24.94	-7.89	0.60	3.53		

COL CB TRACT

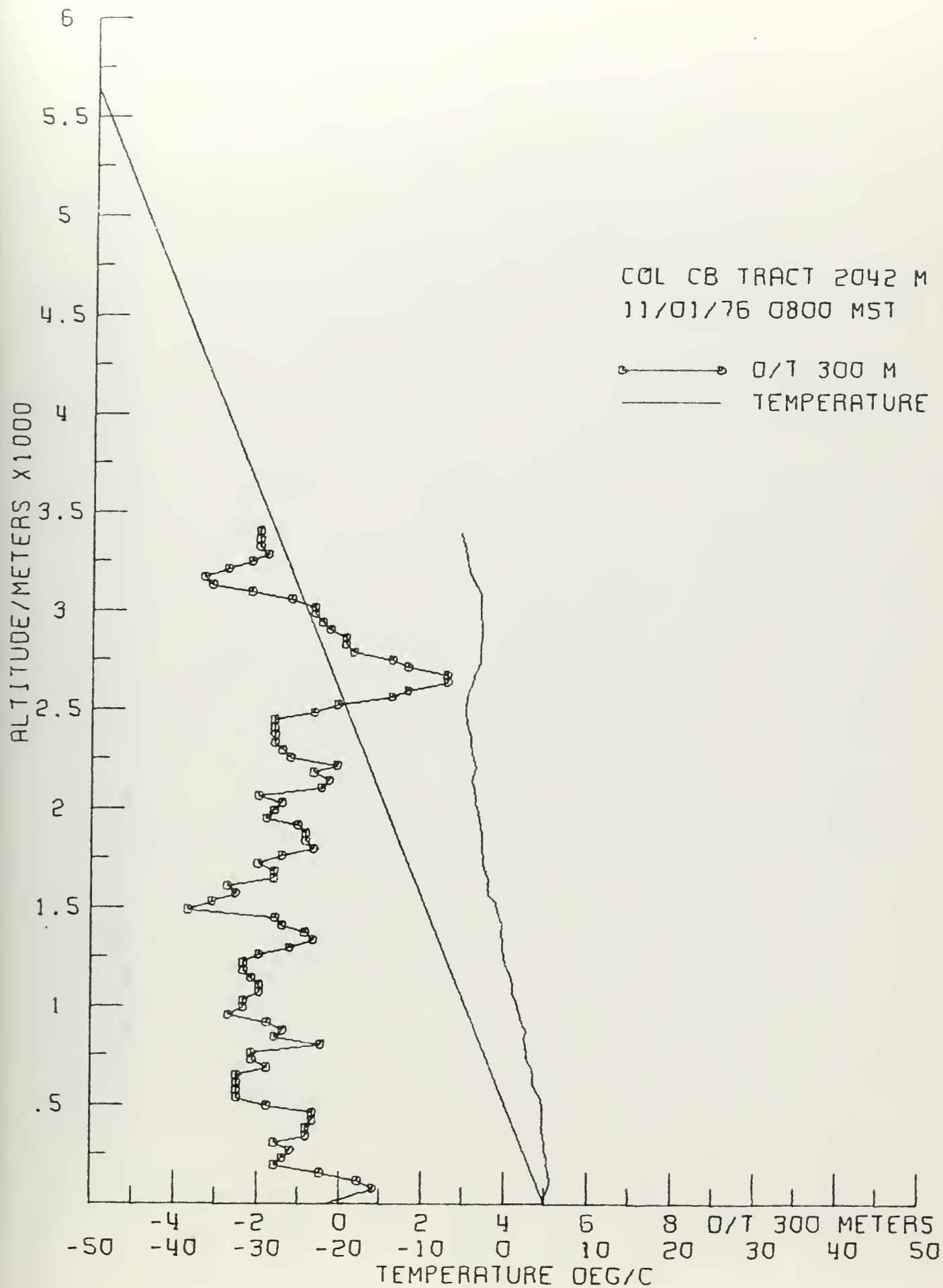
ELEV 2042 METERS

SOUNDING ID 2863

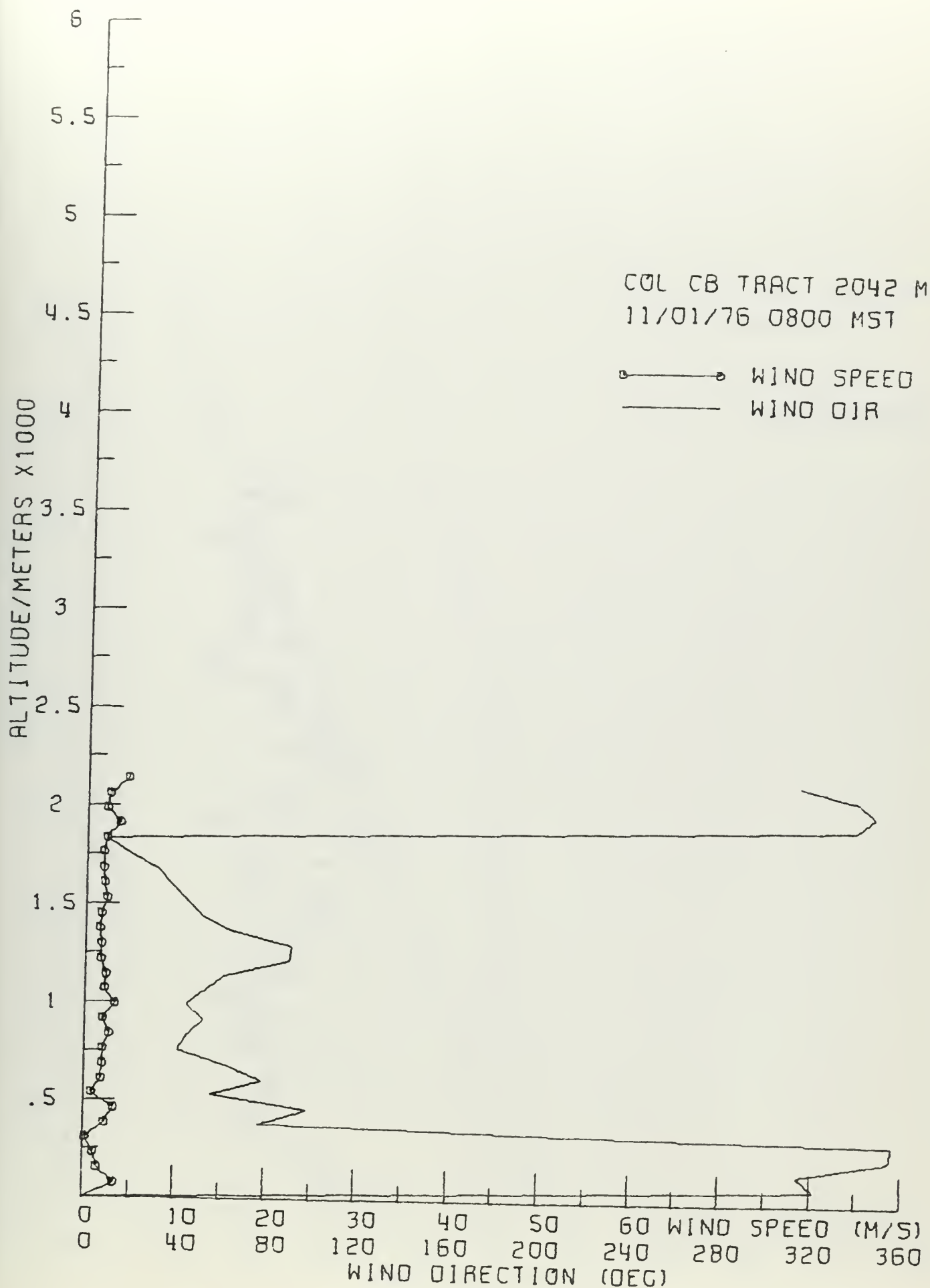
TE 11/30/76 TIME 13:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

TIME MIN	HEIGHT M (AGL)	HEIGHT M (MSL)	U-COMP M/S	V-COMP M/S	WIND SPEED M/S	WIND DIR DEG
0.0	0.	2042.	0.0	0.0	0.0	0.



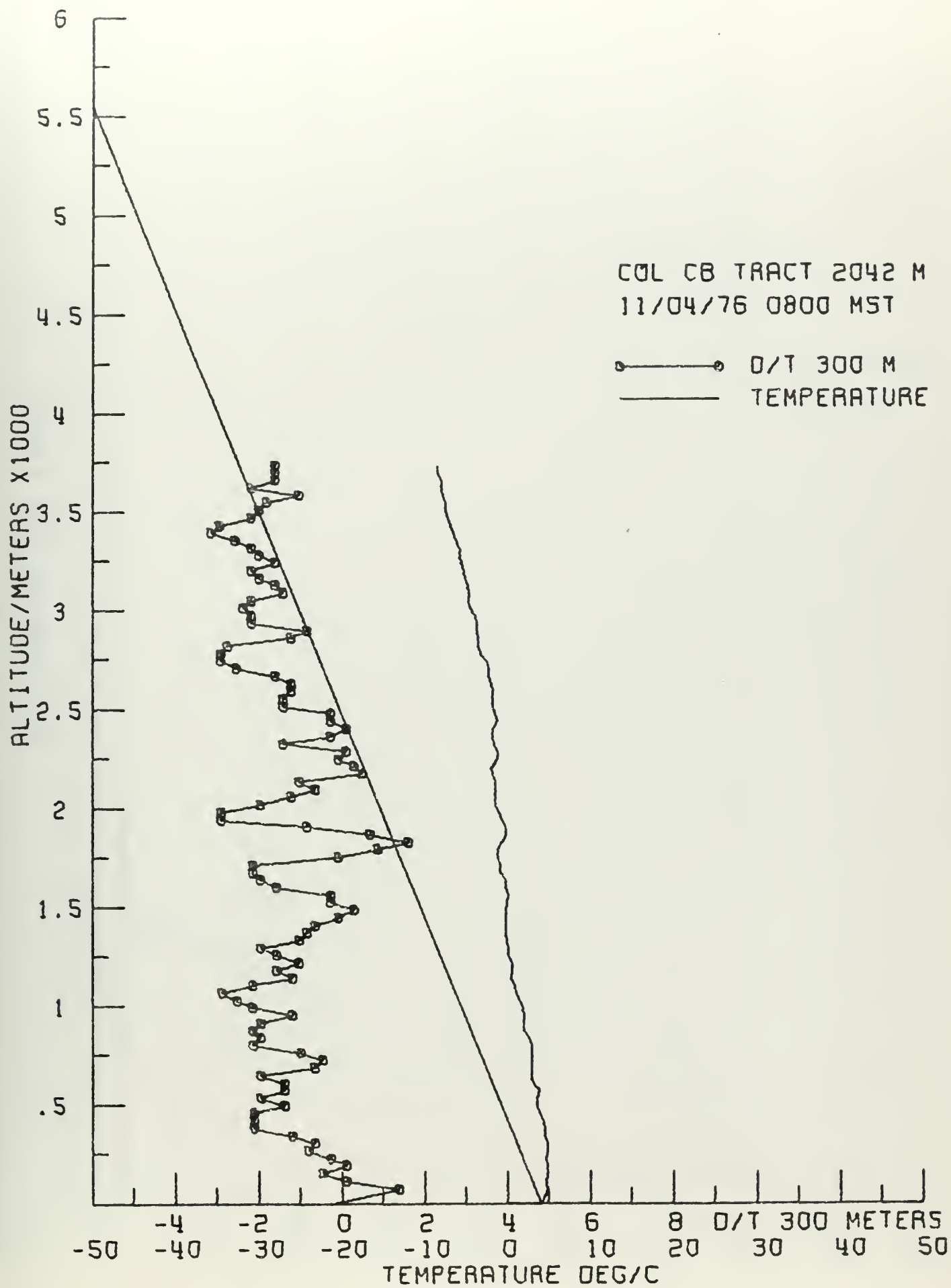




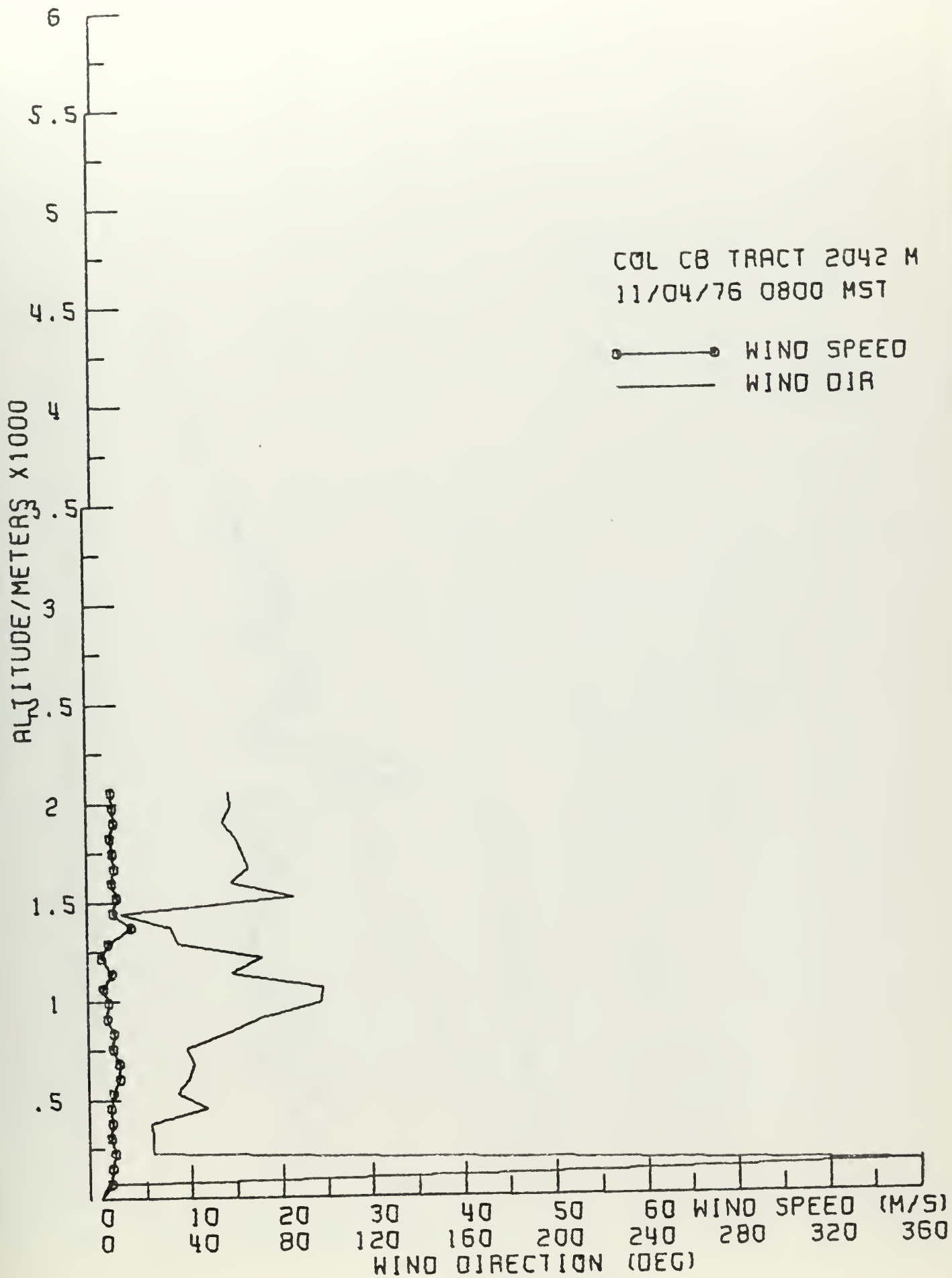






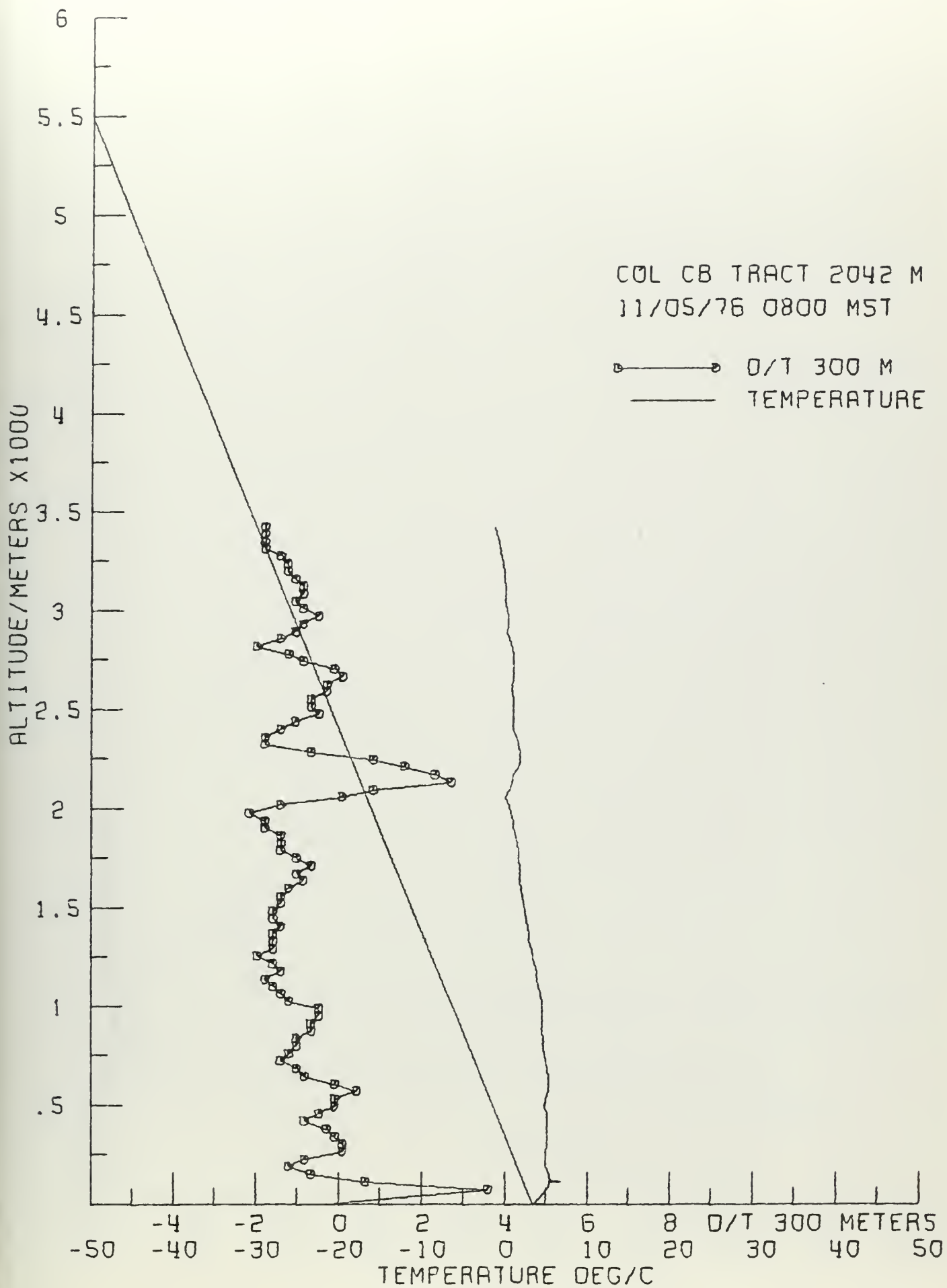




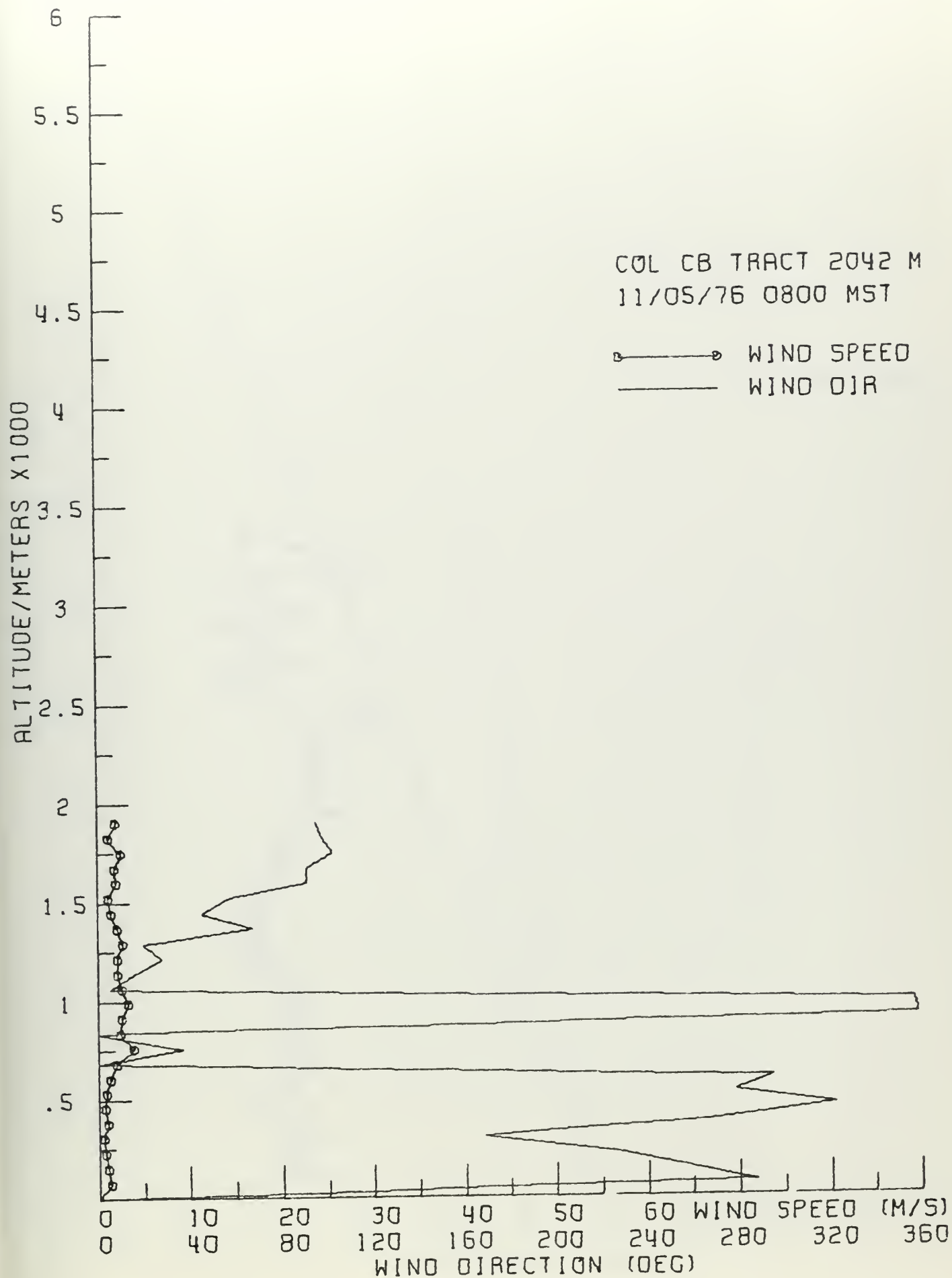




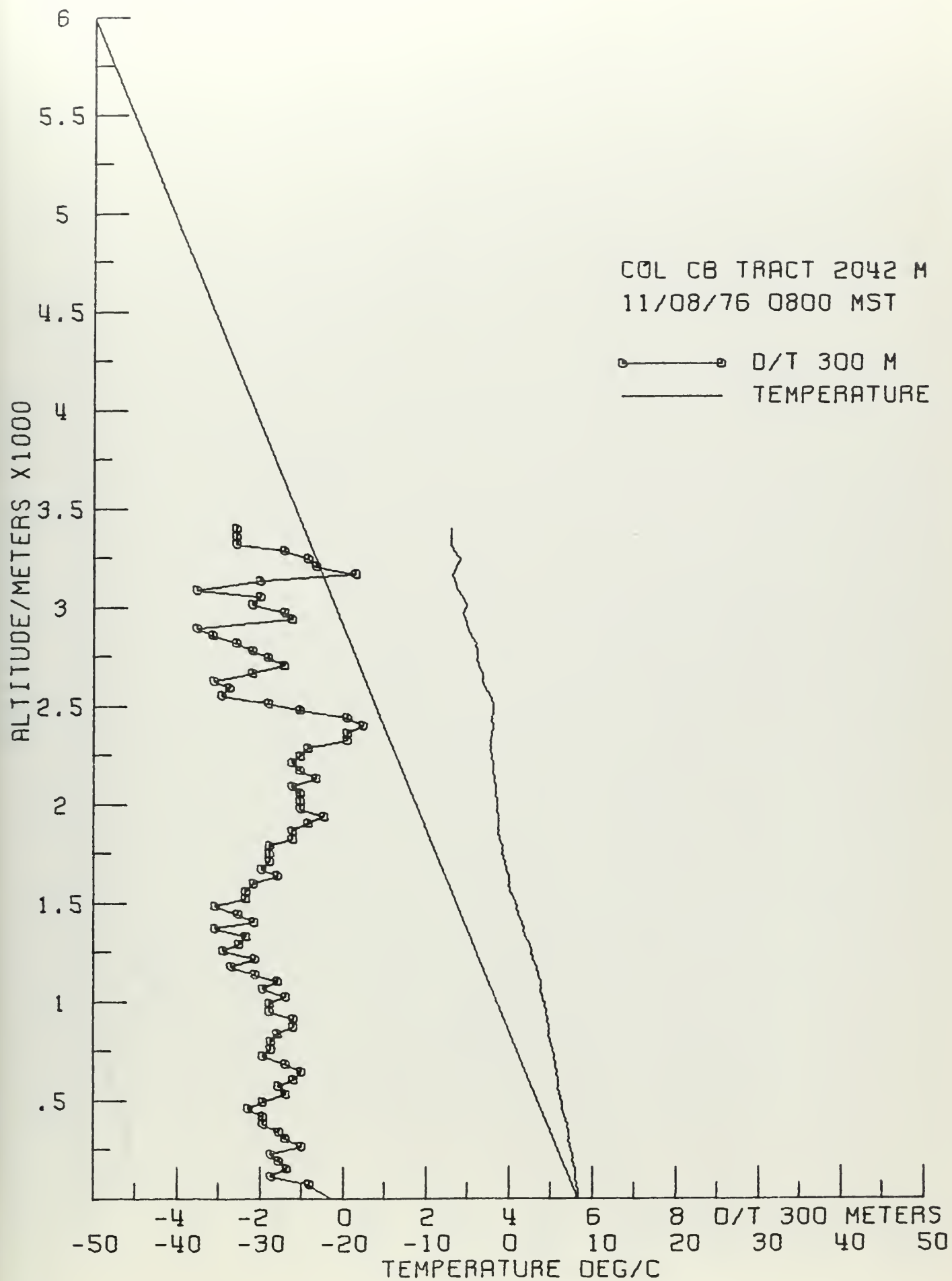






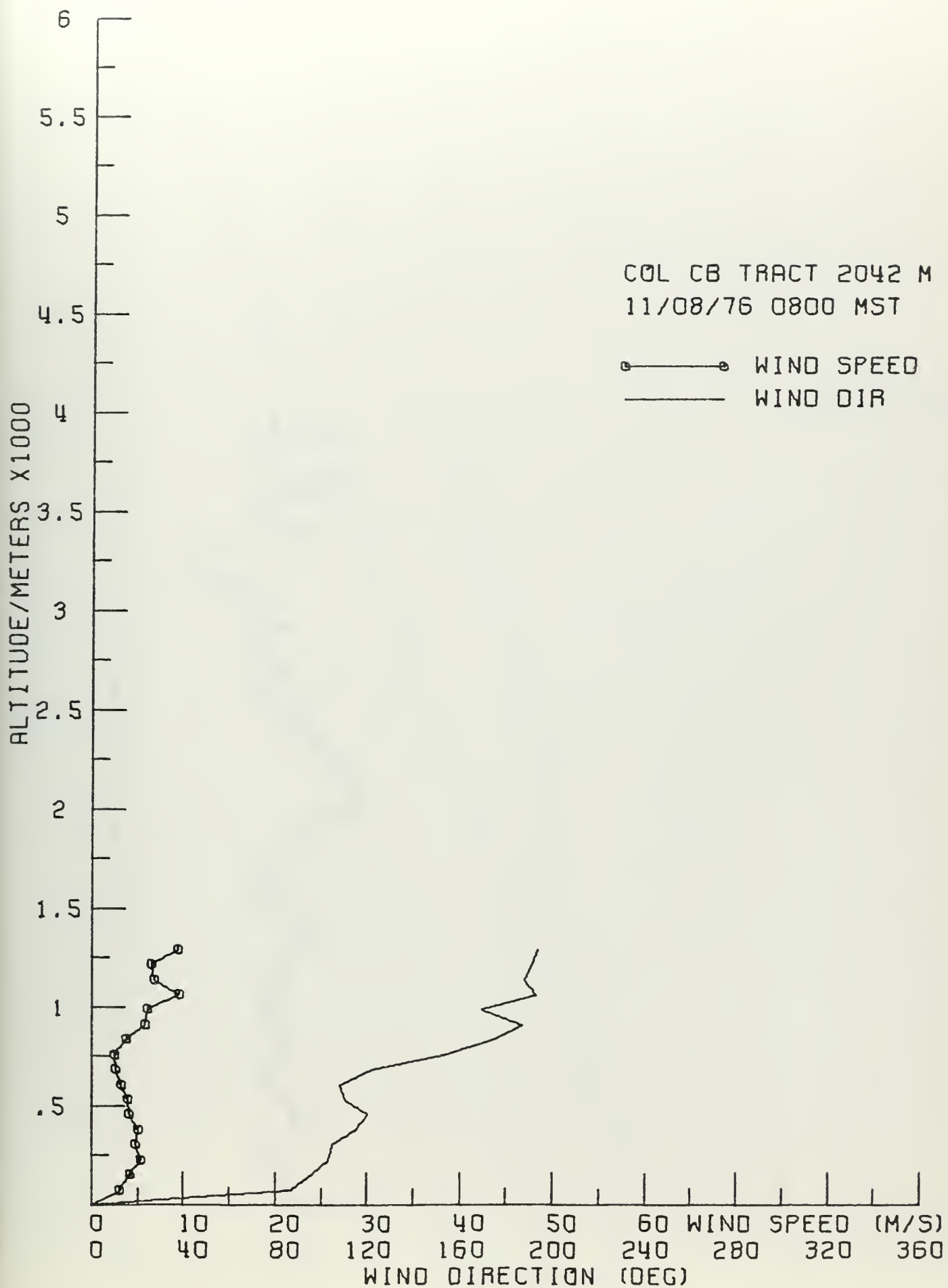




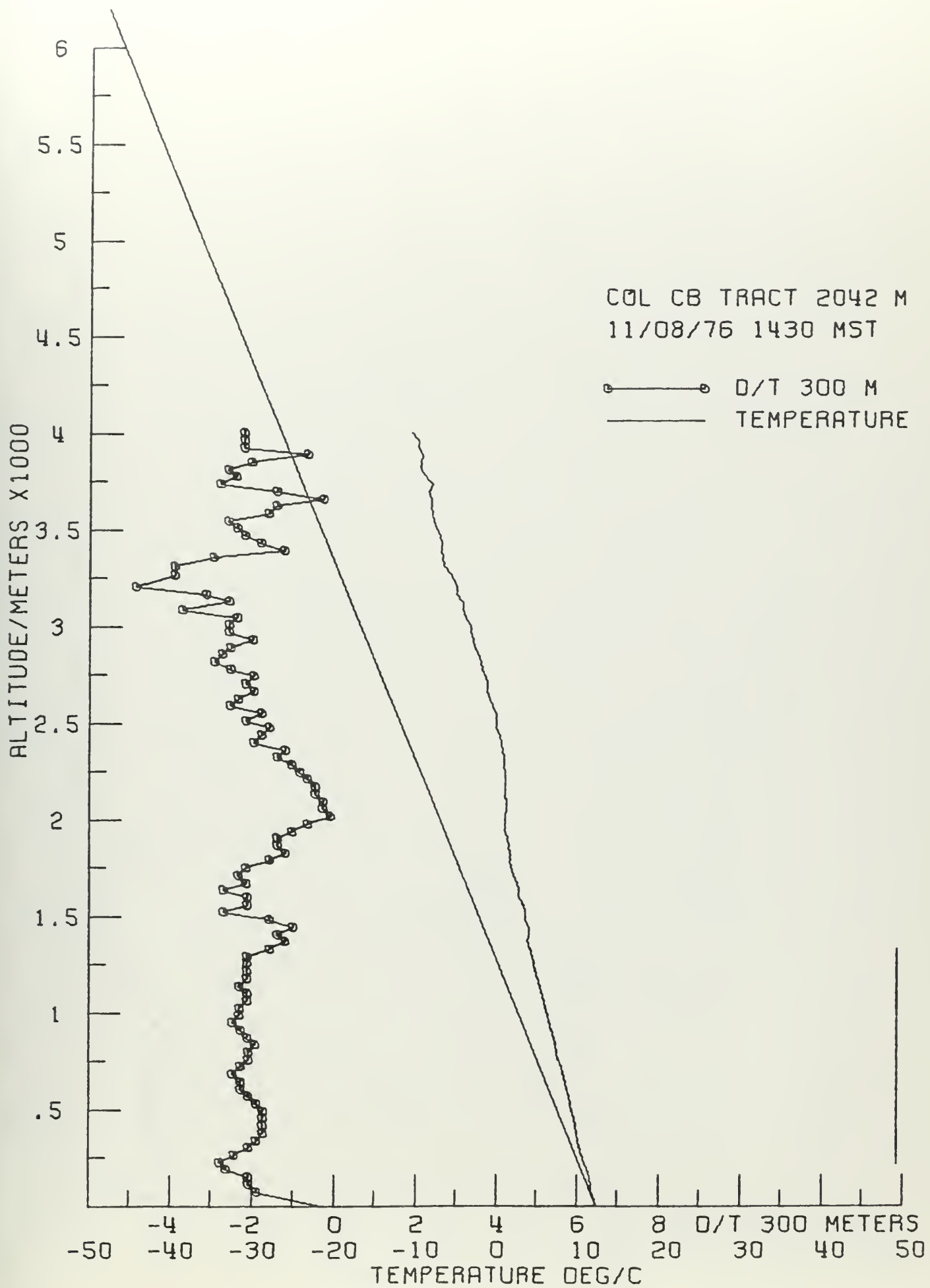




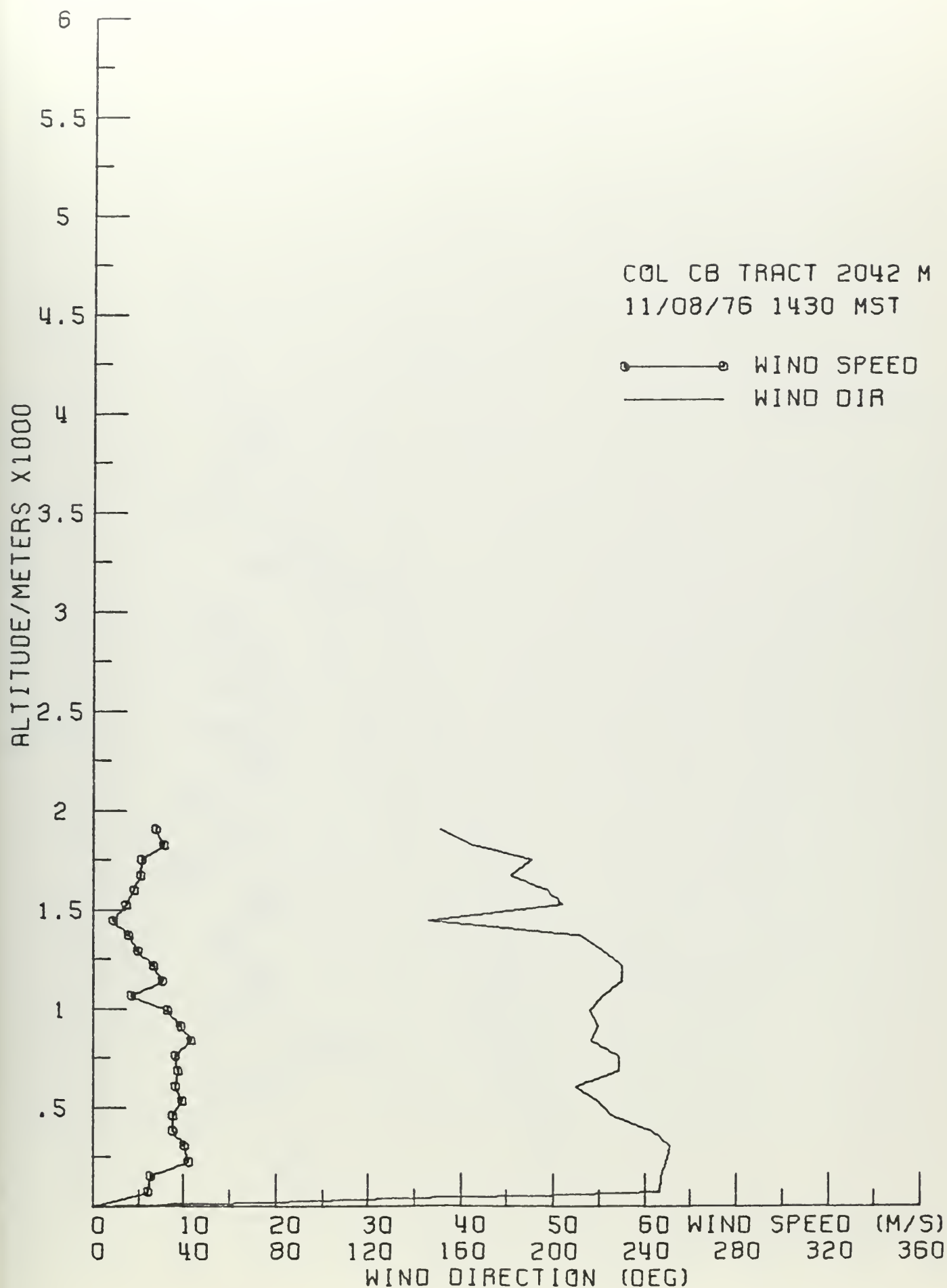






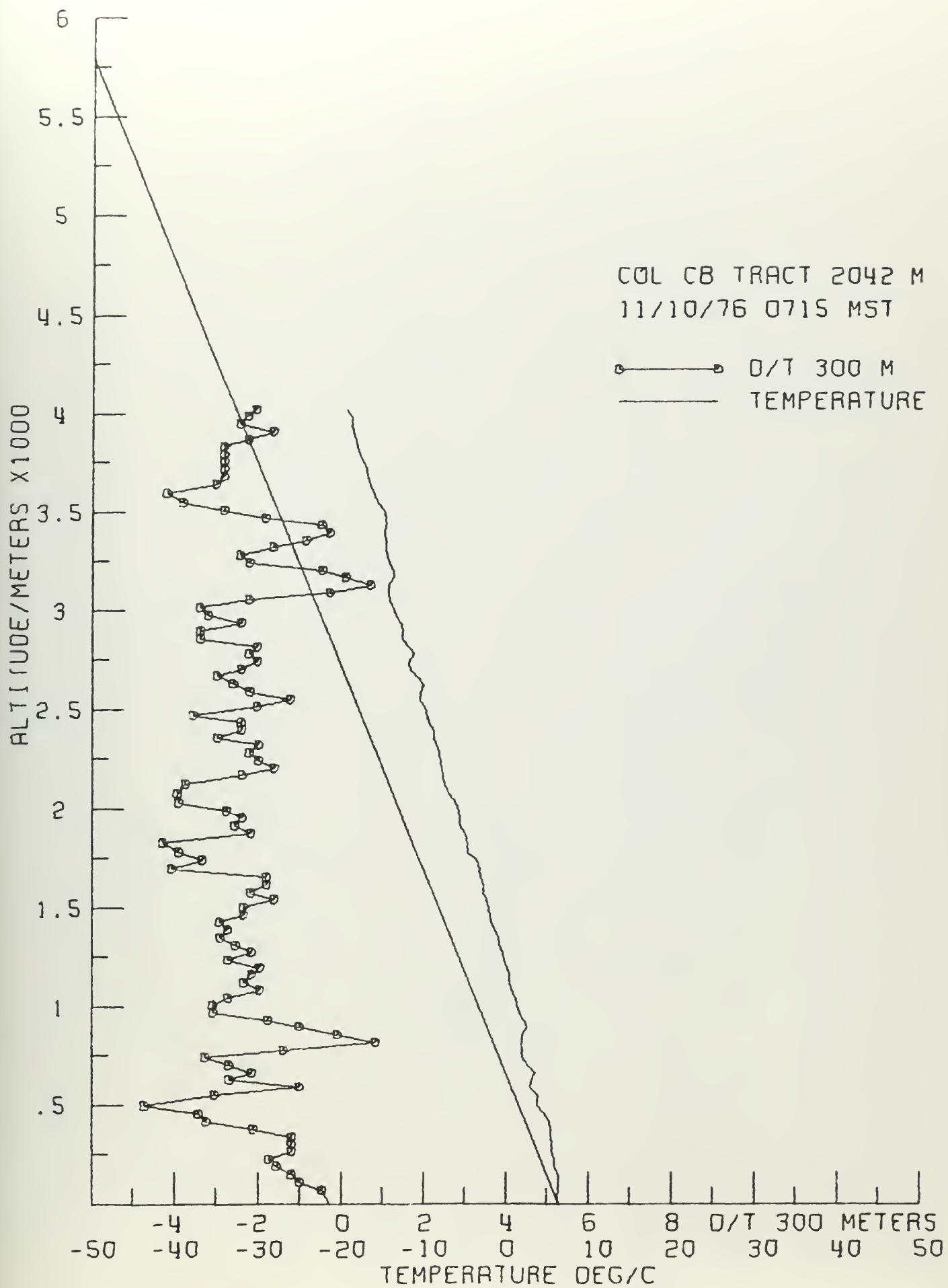




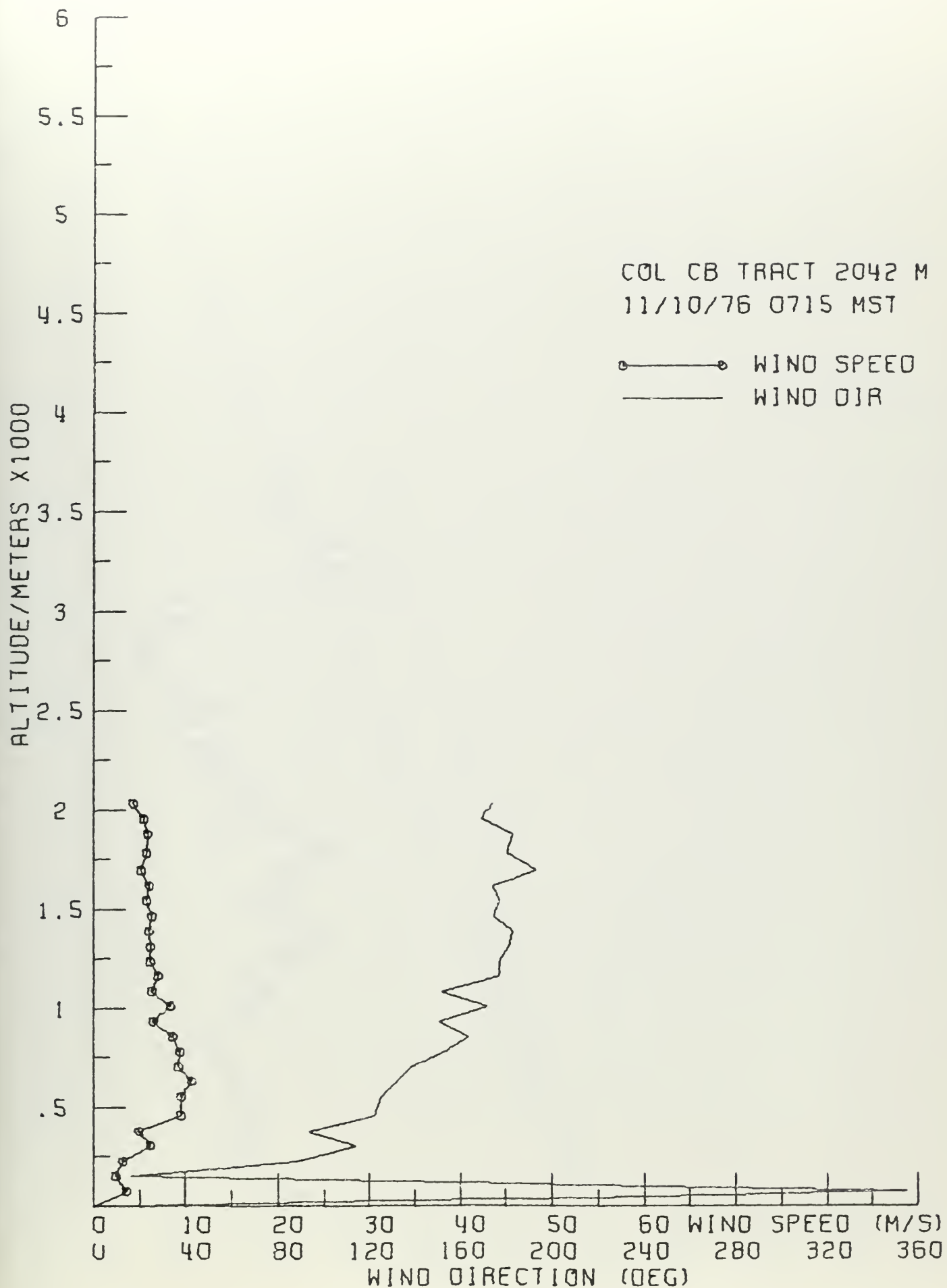




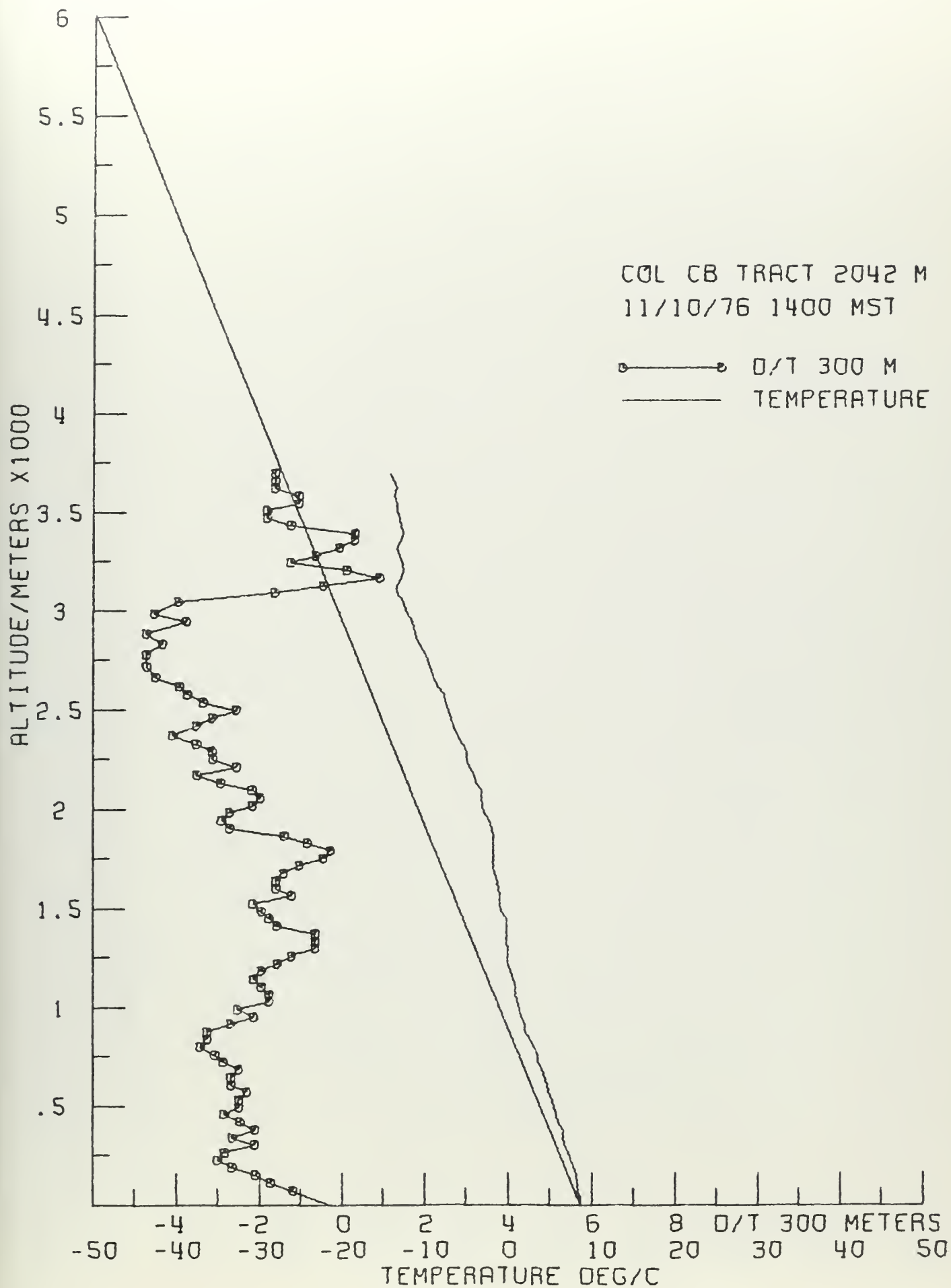






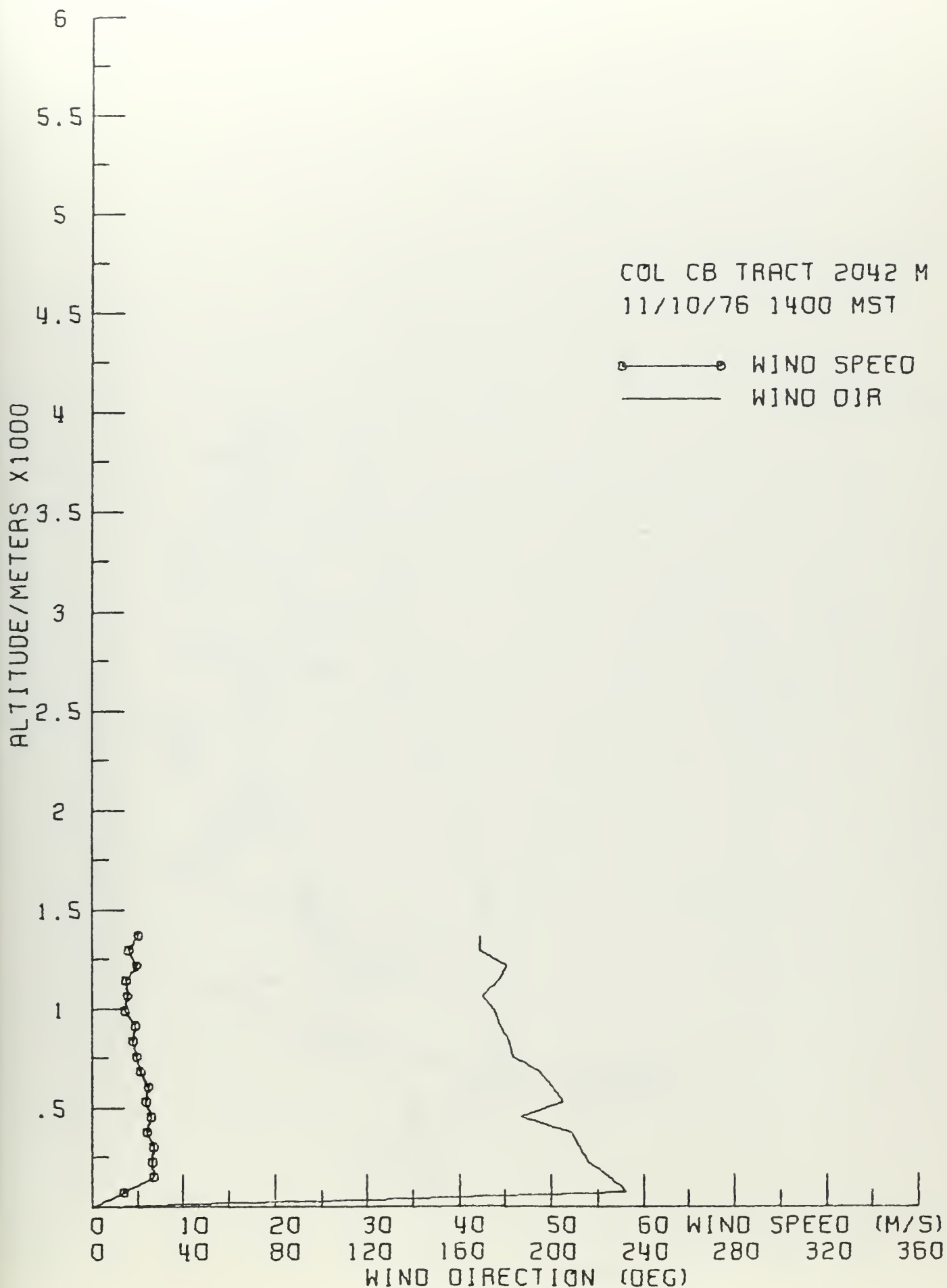




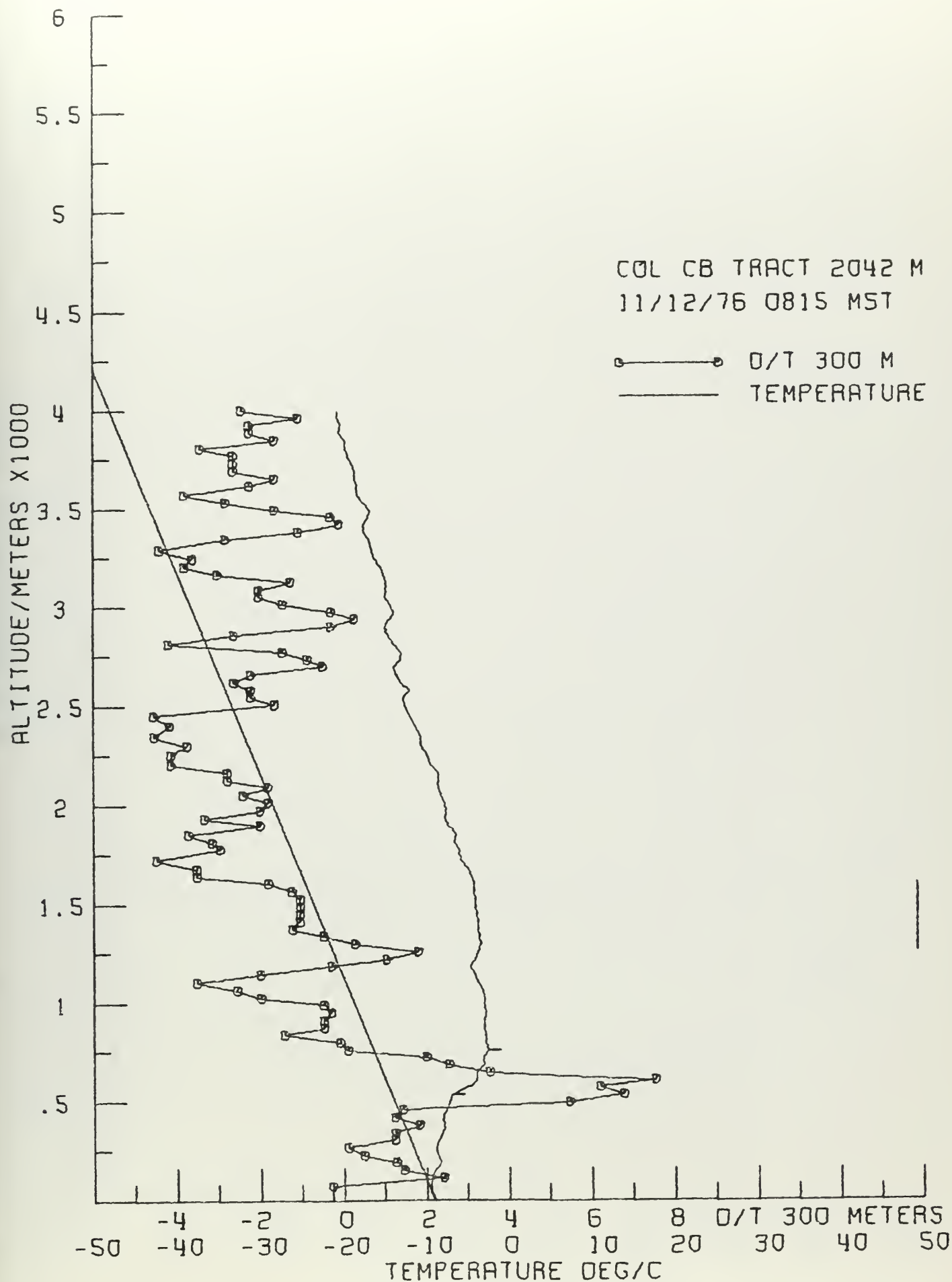




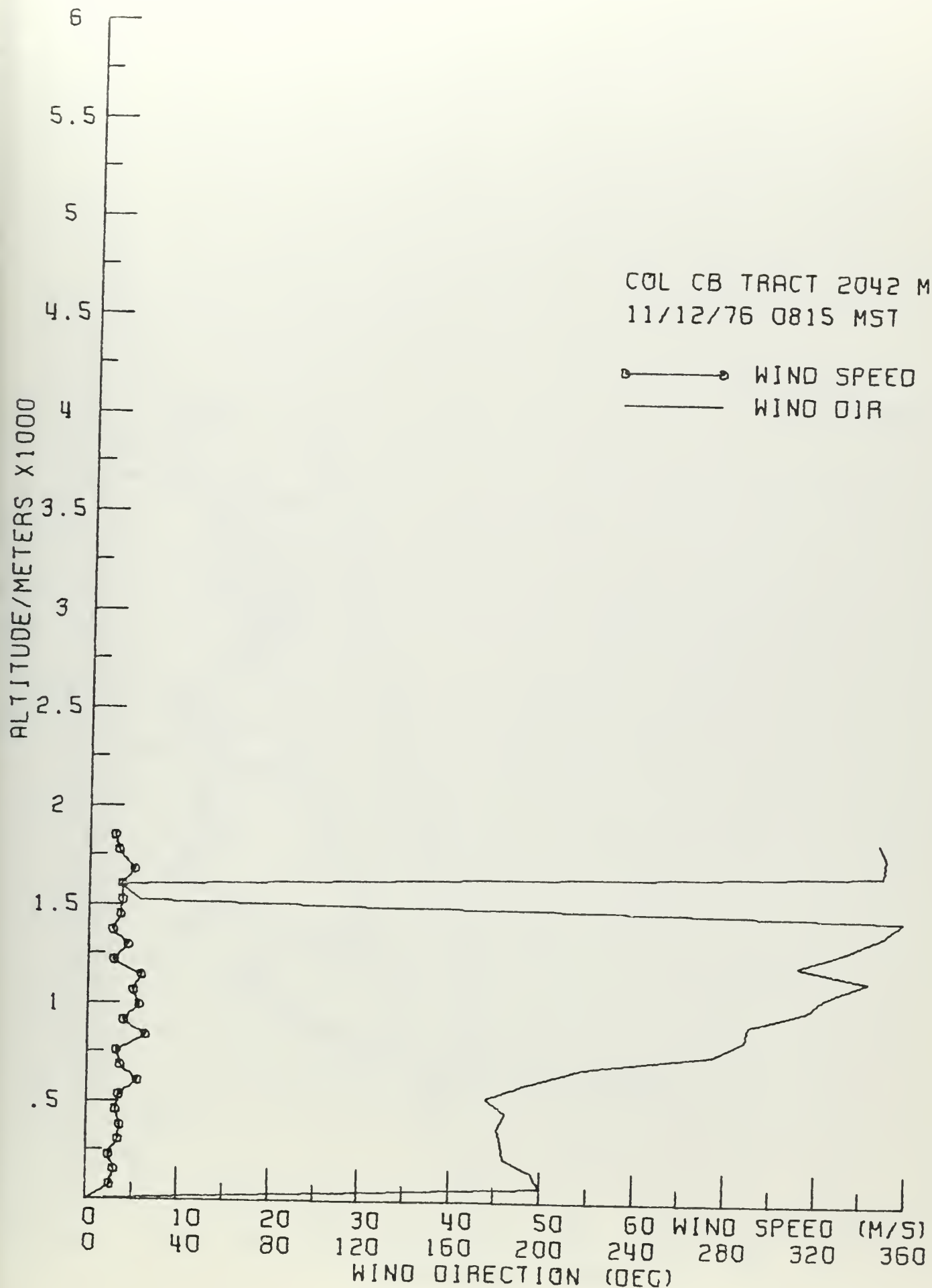






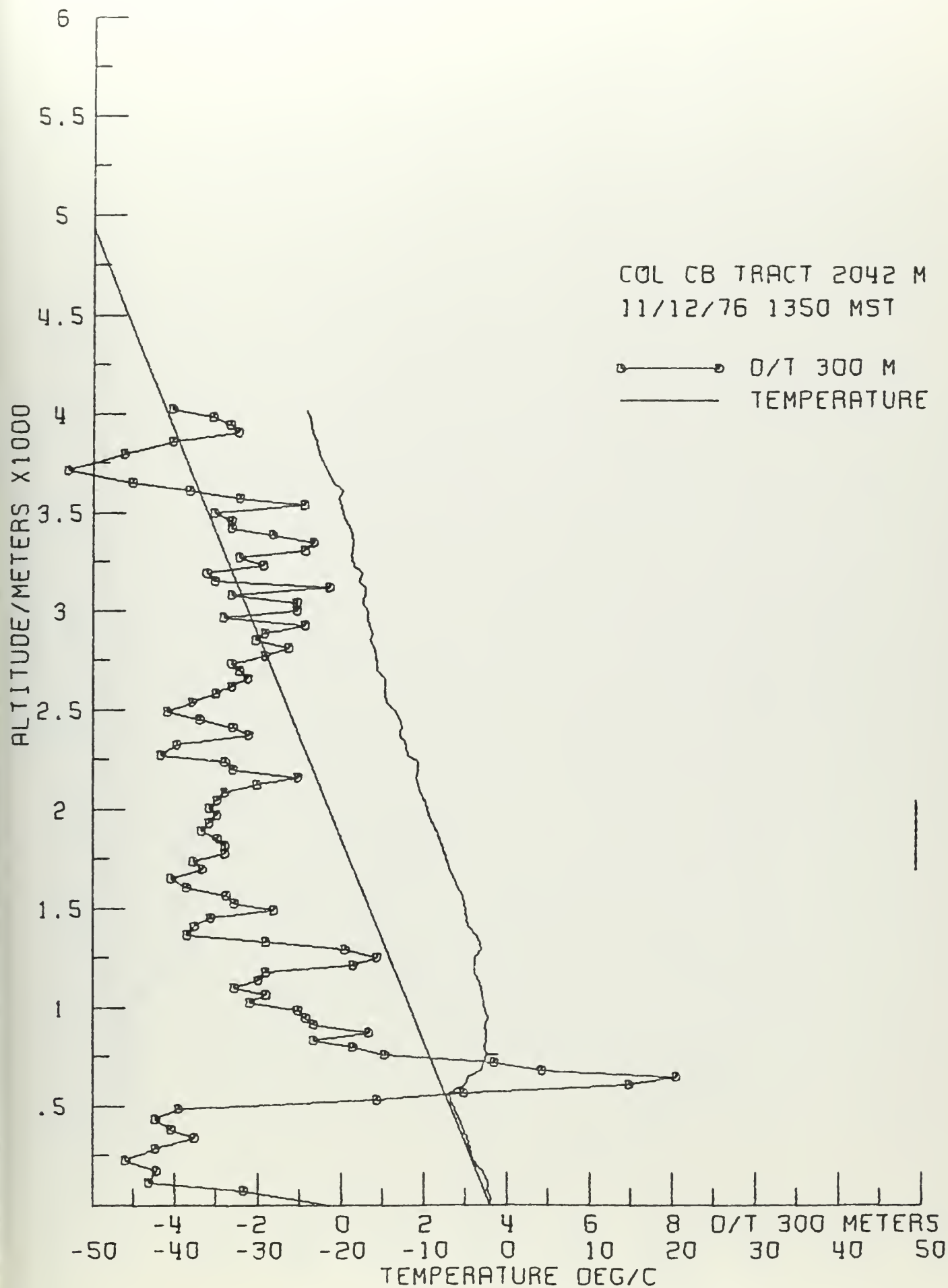




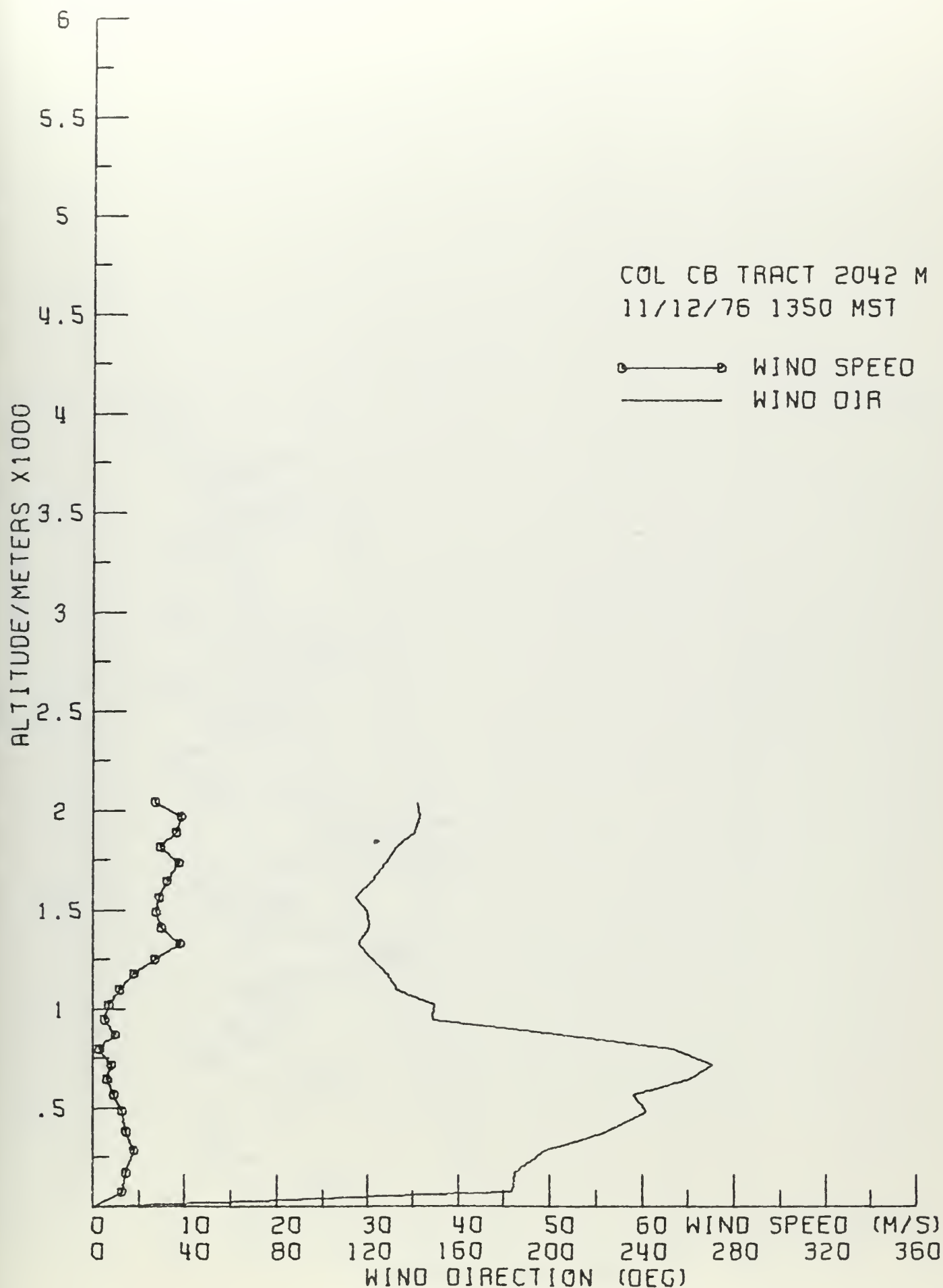




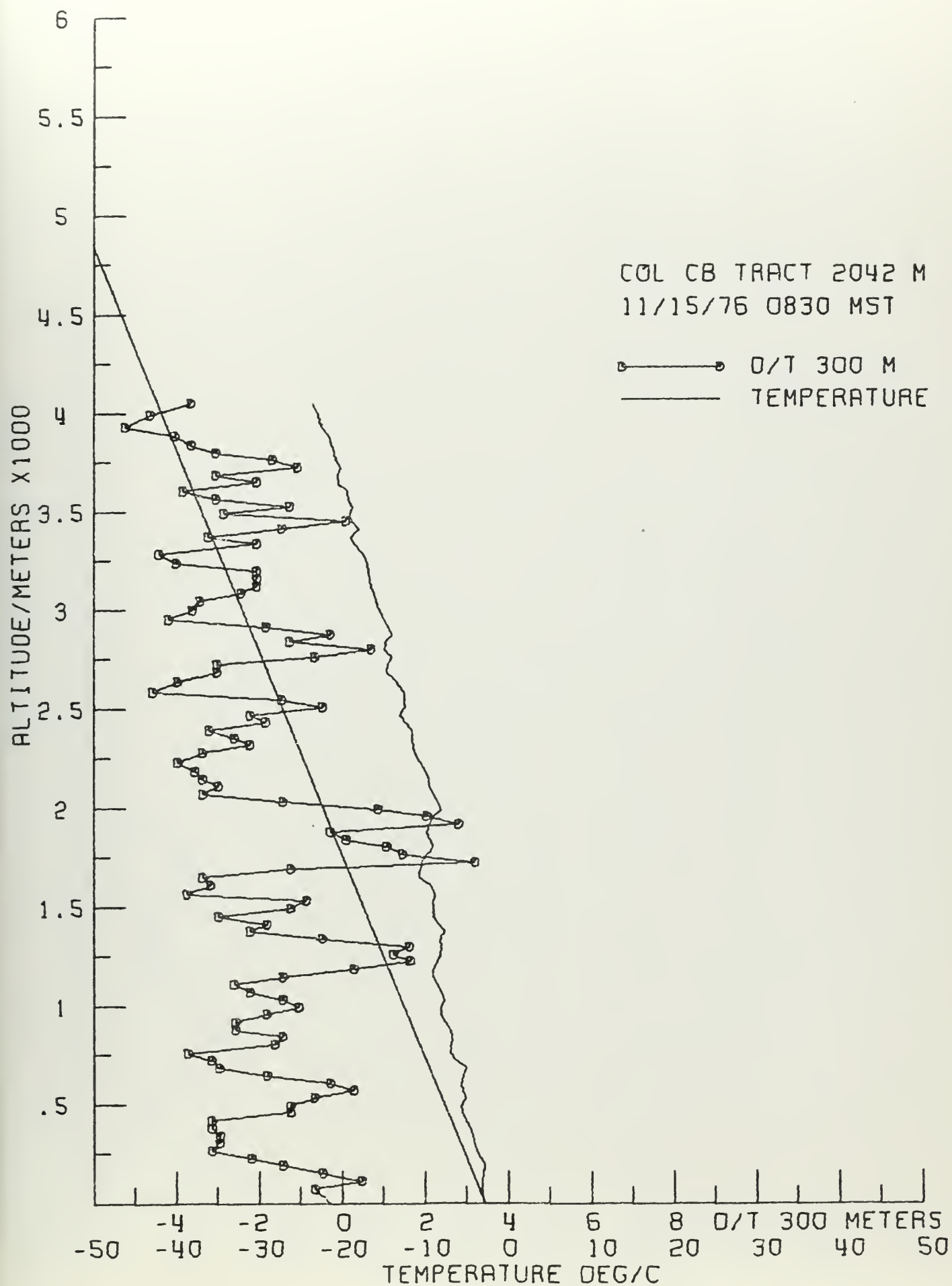






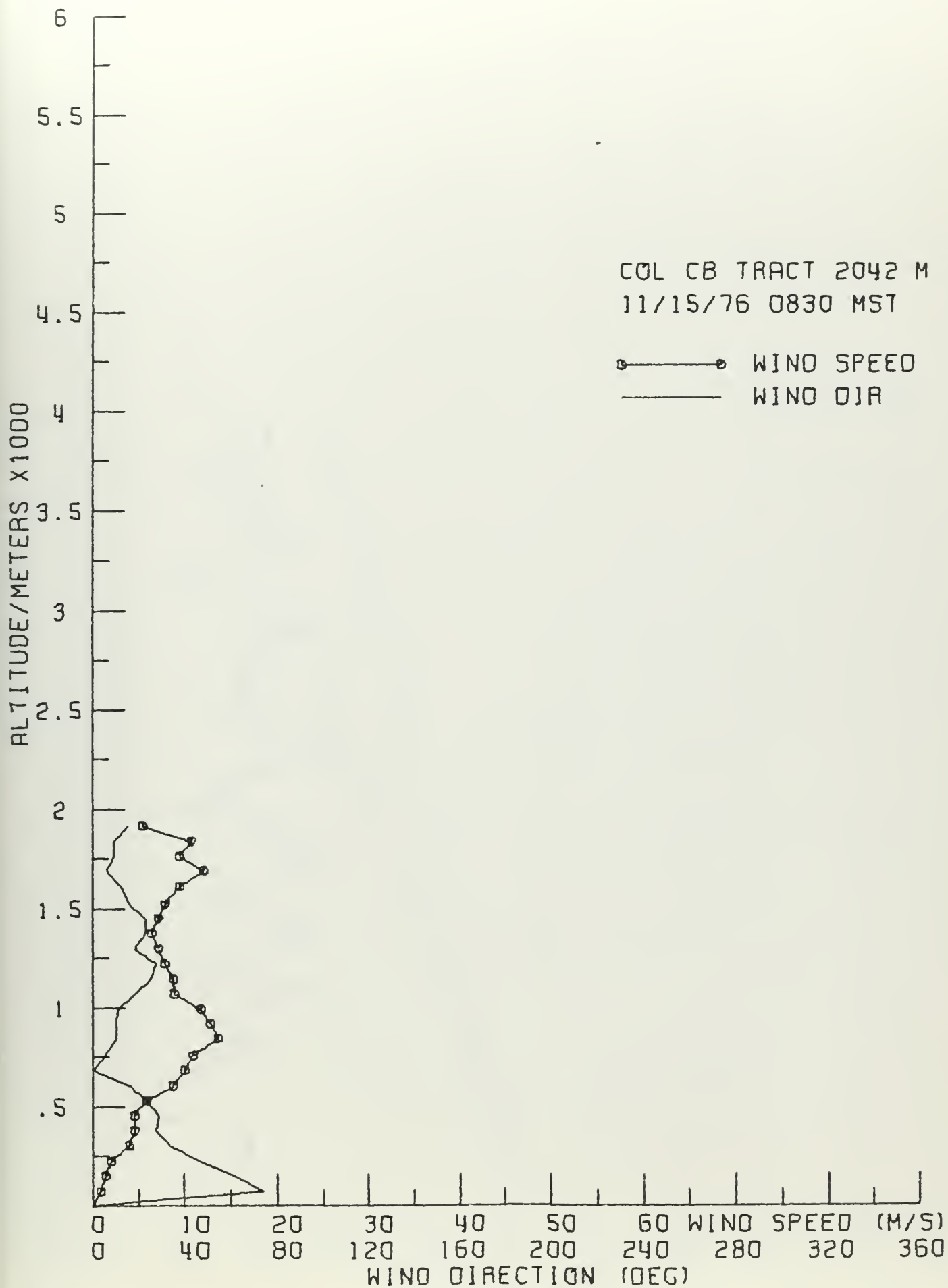




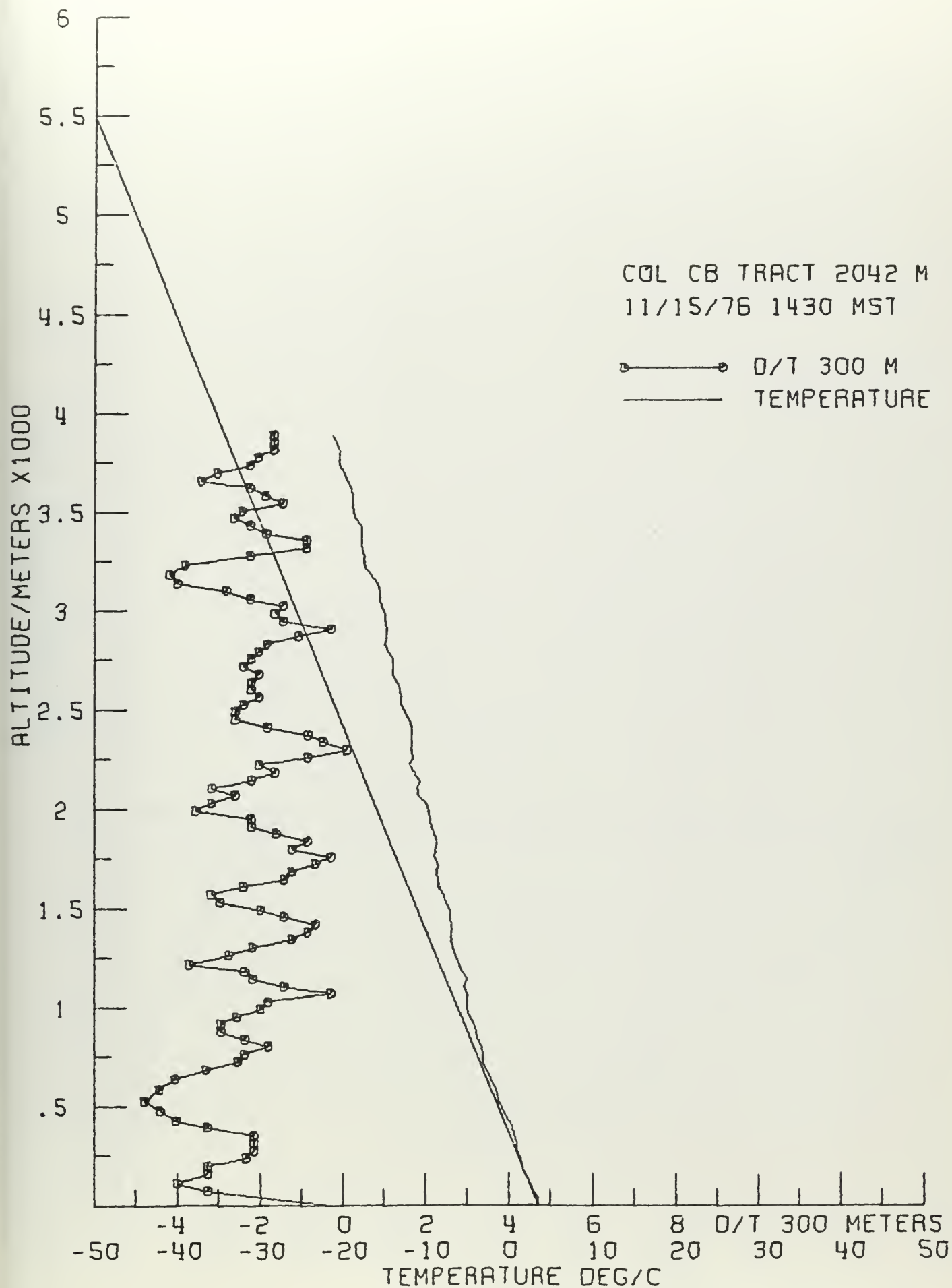




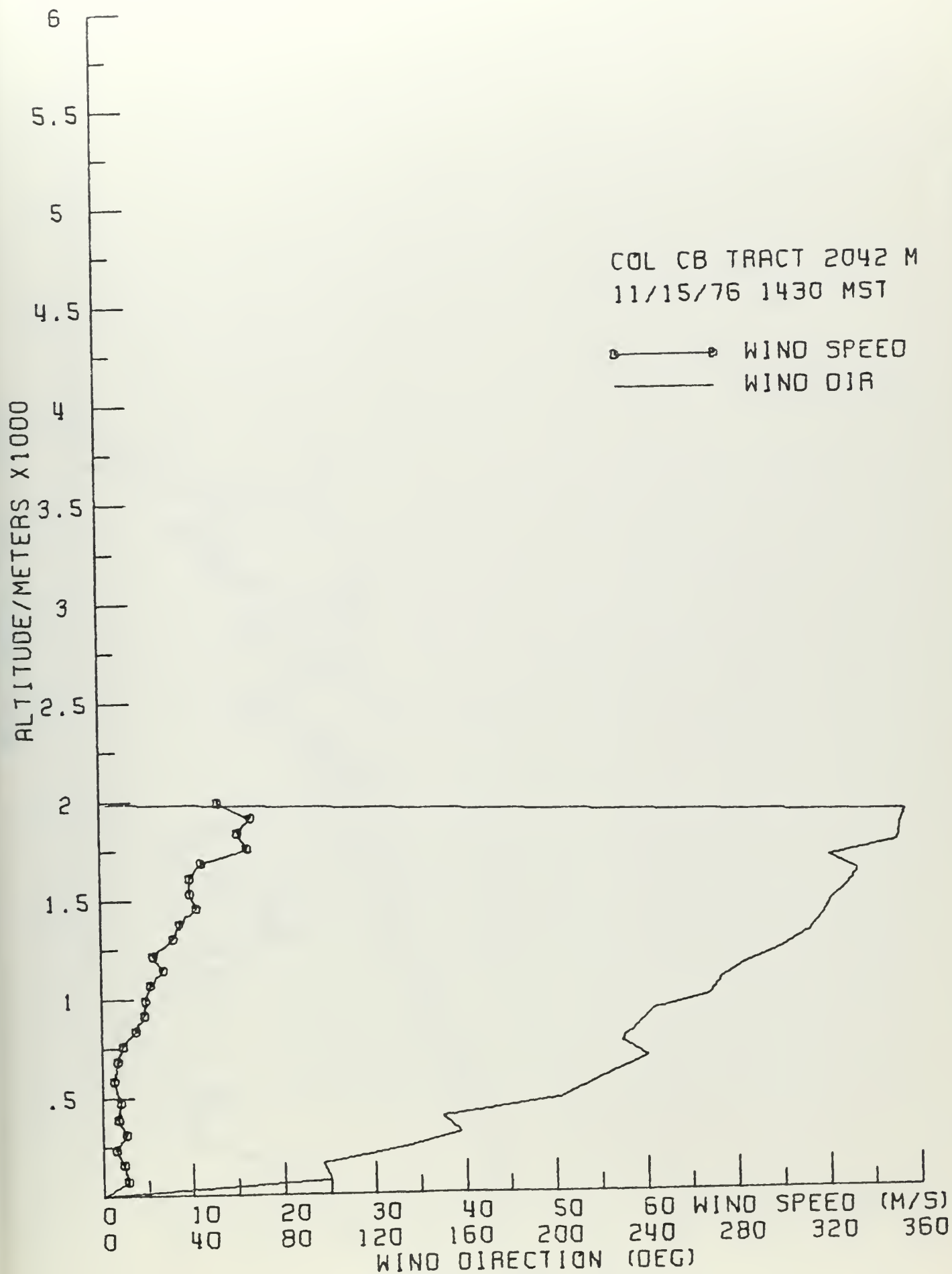






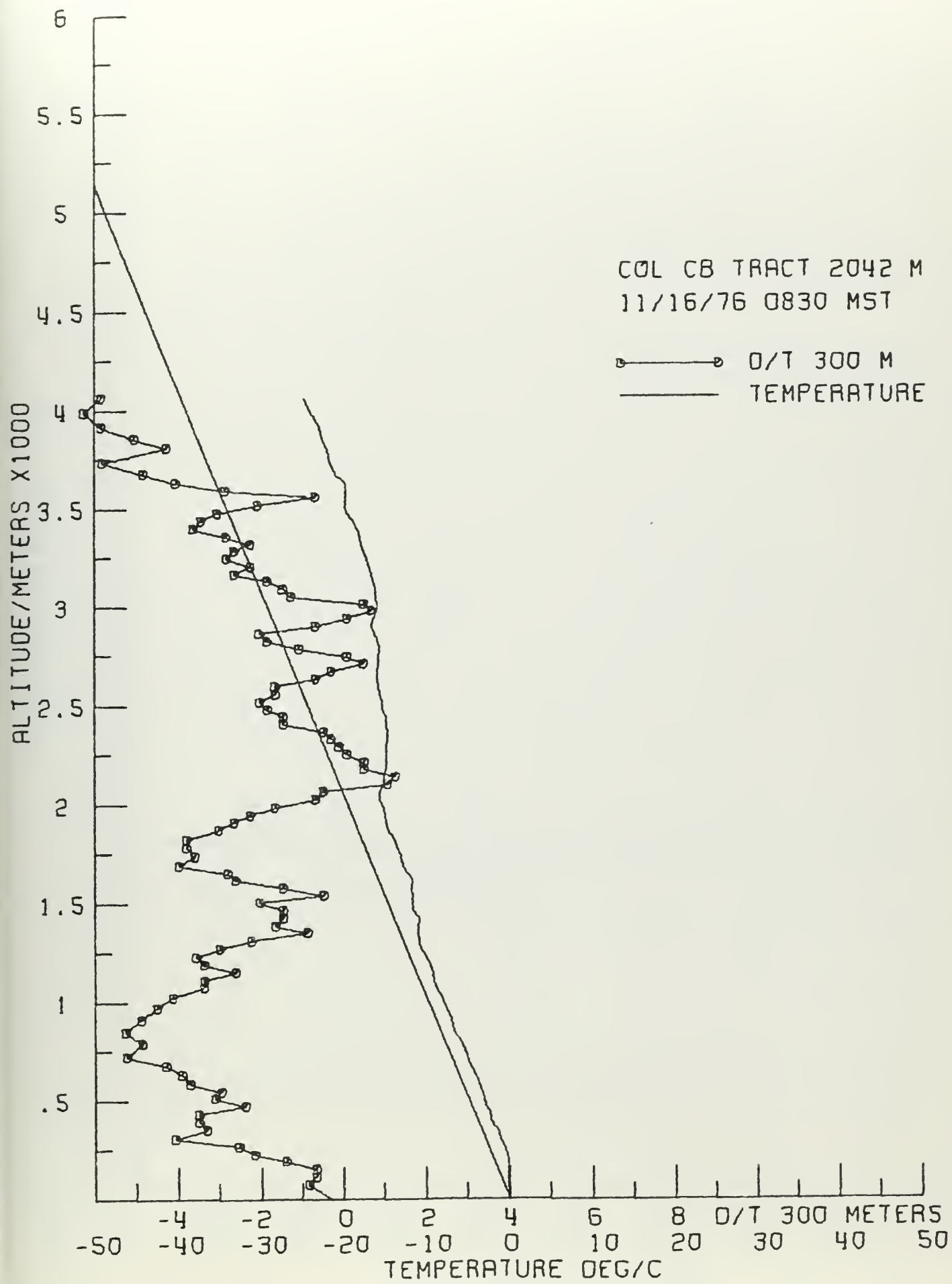




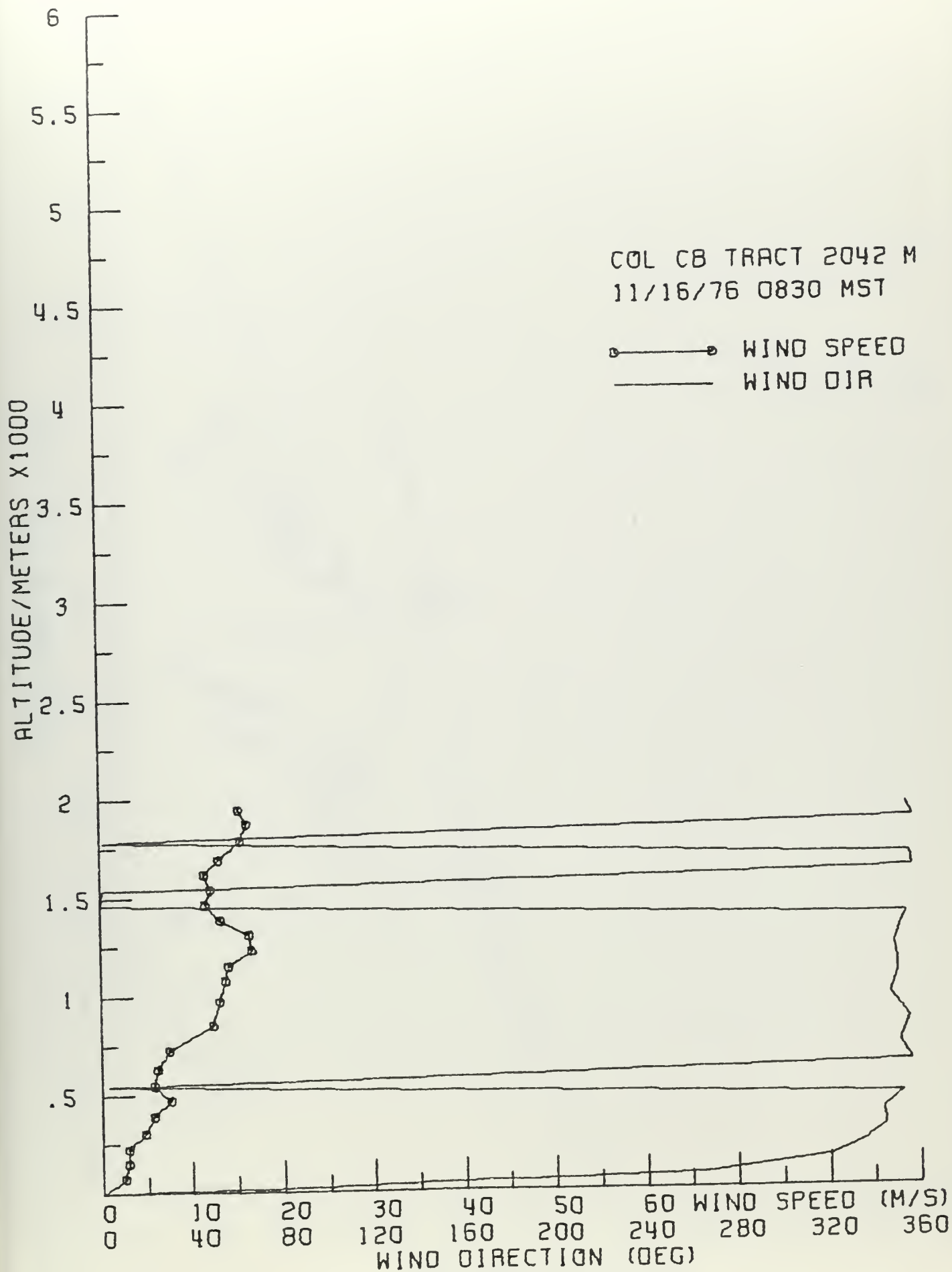




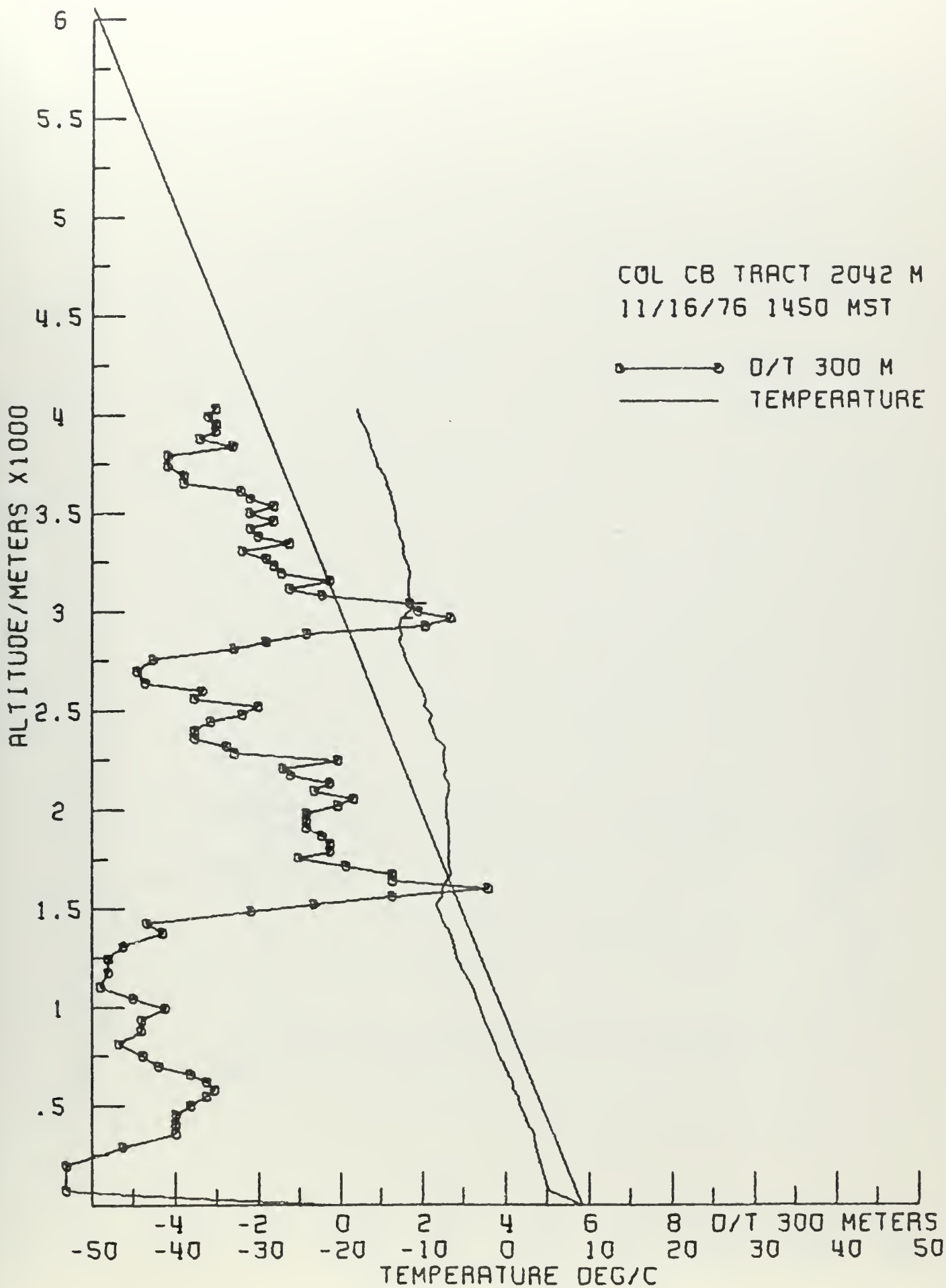






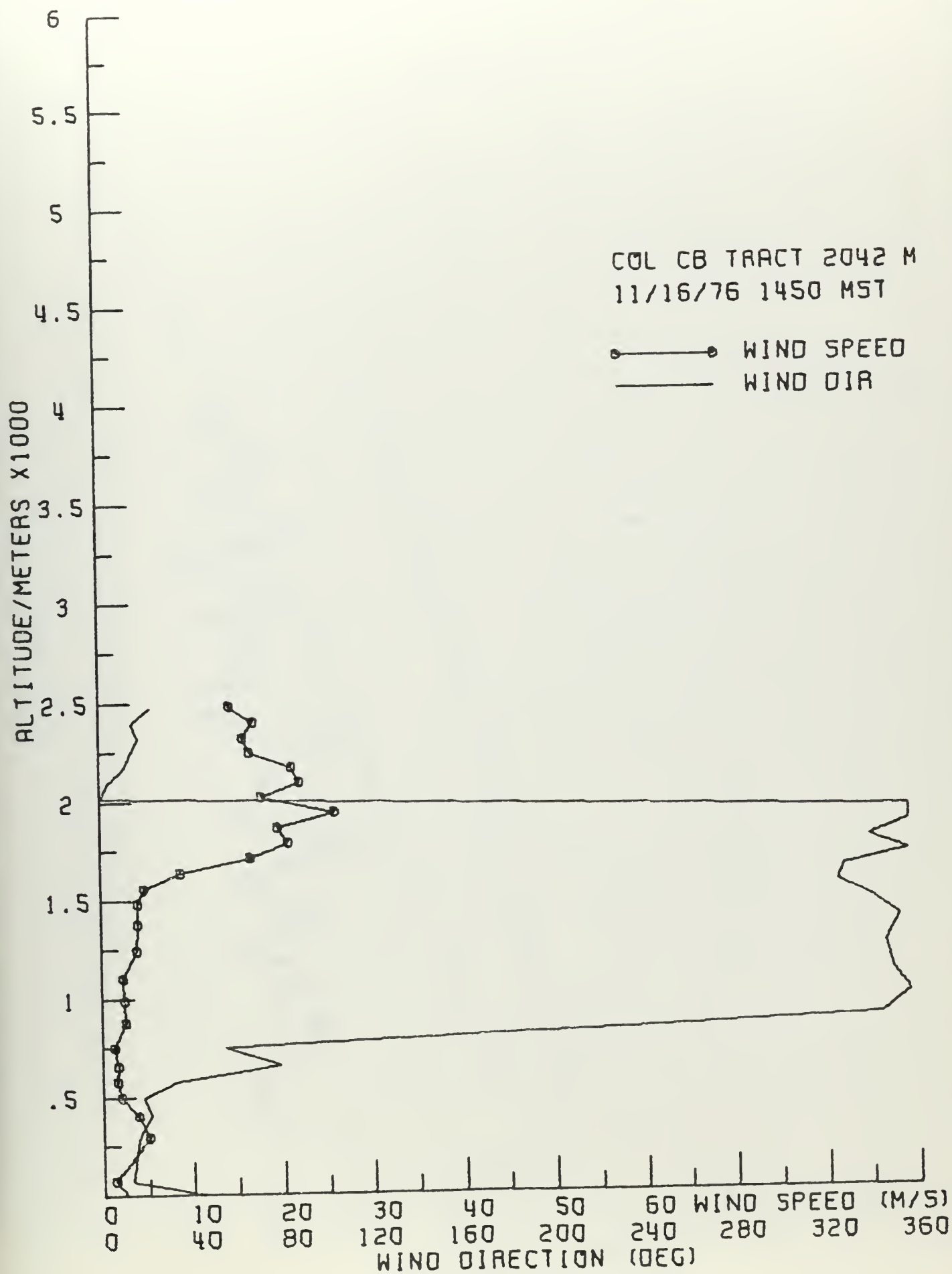




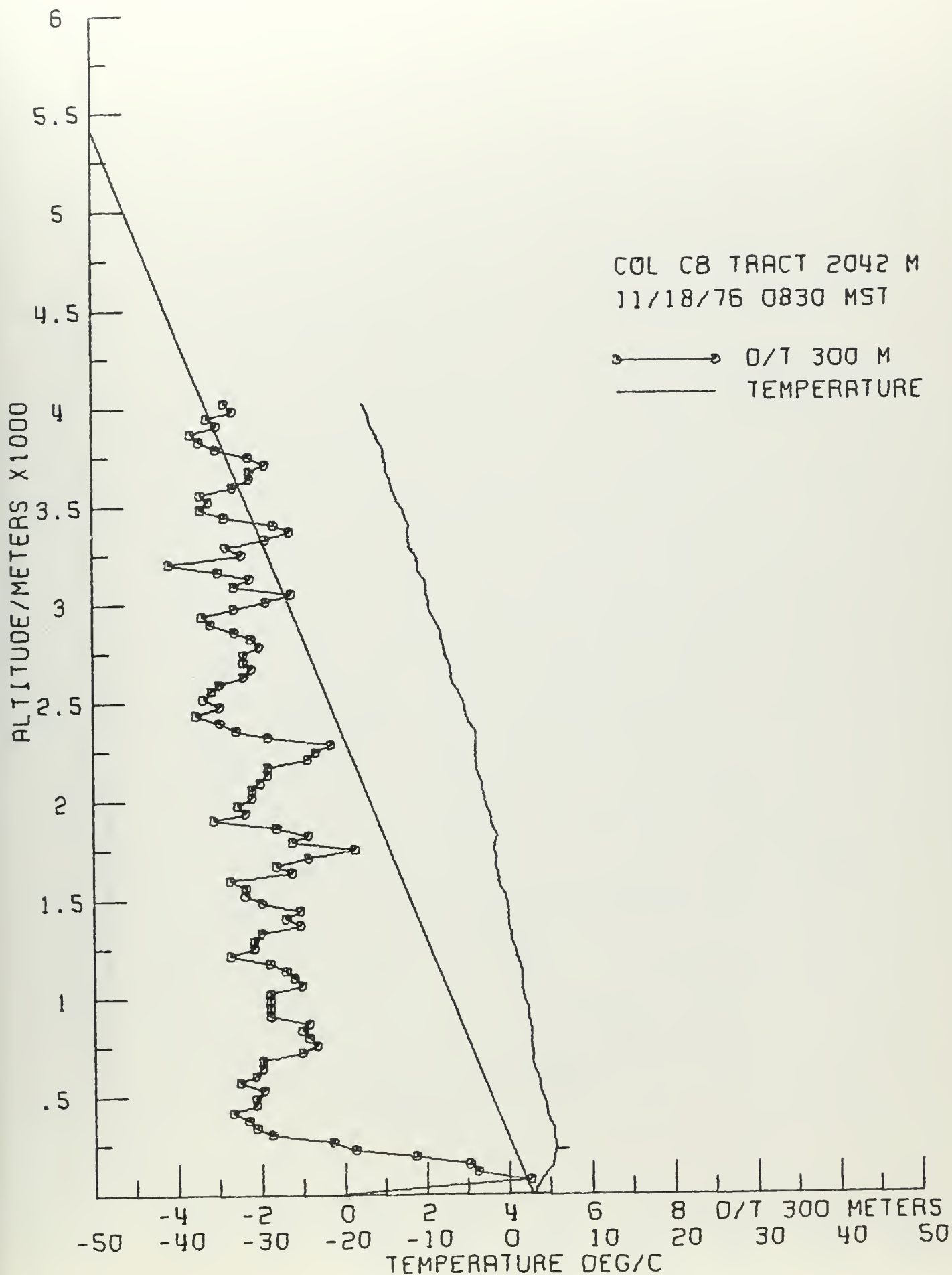




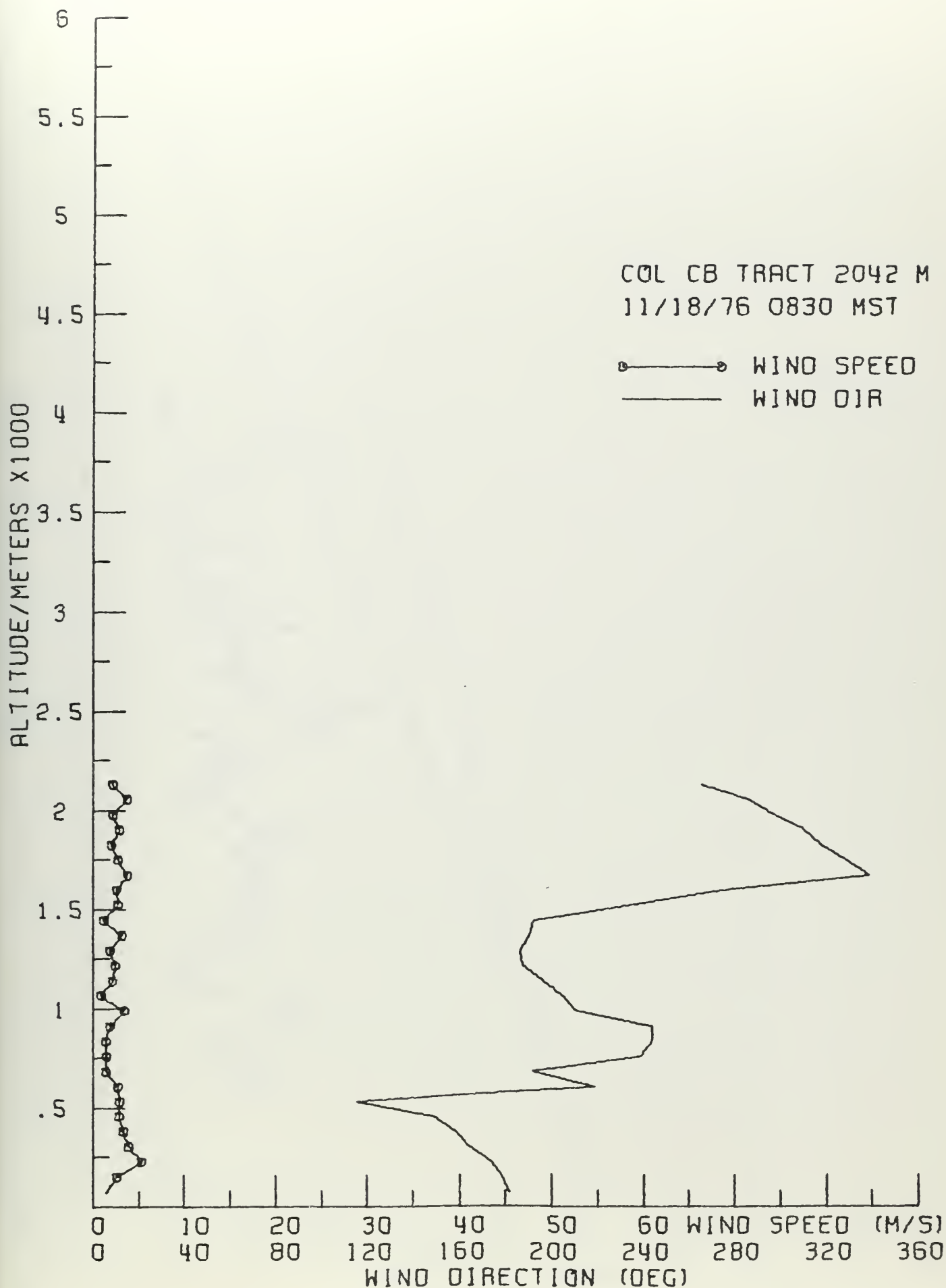




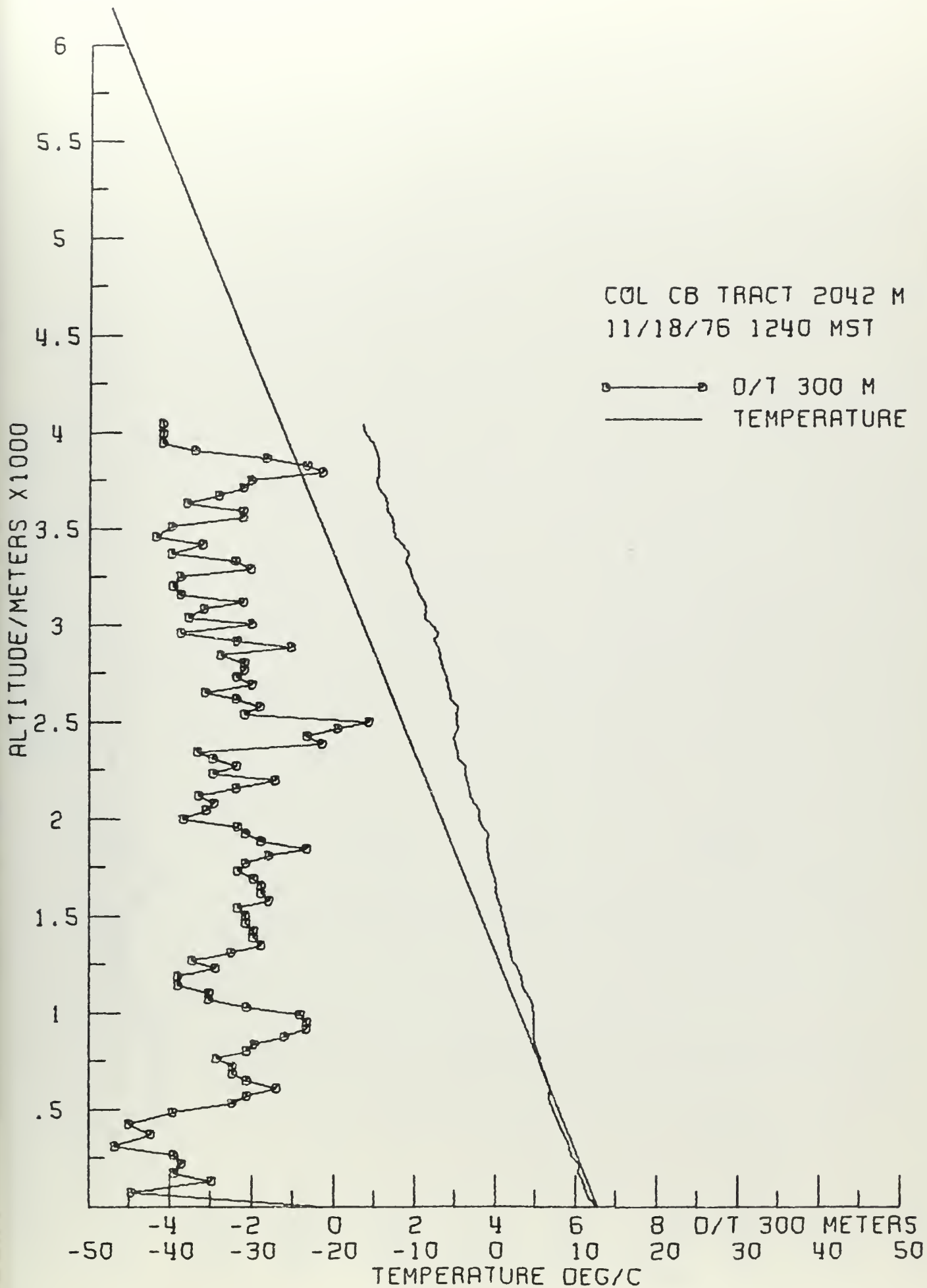






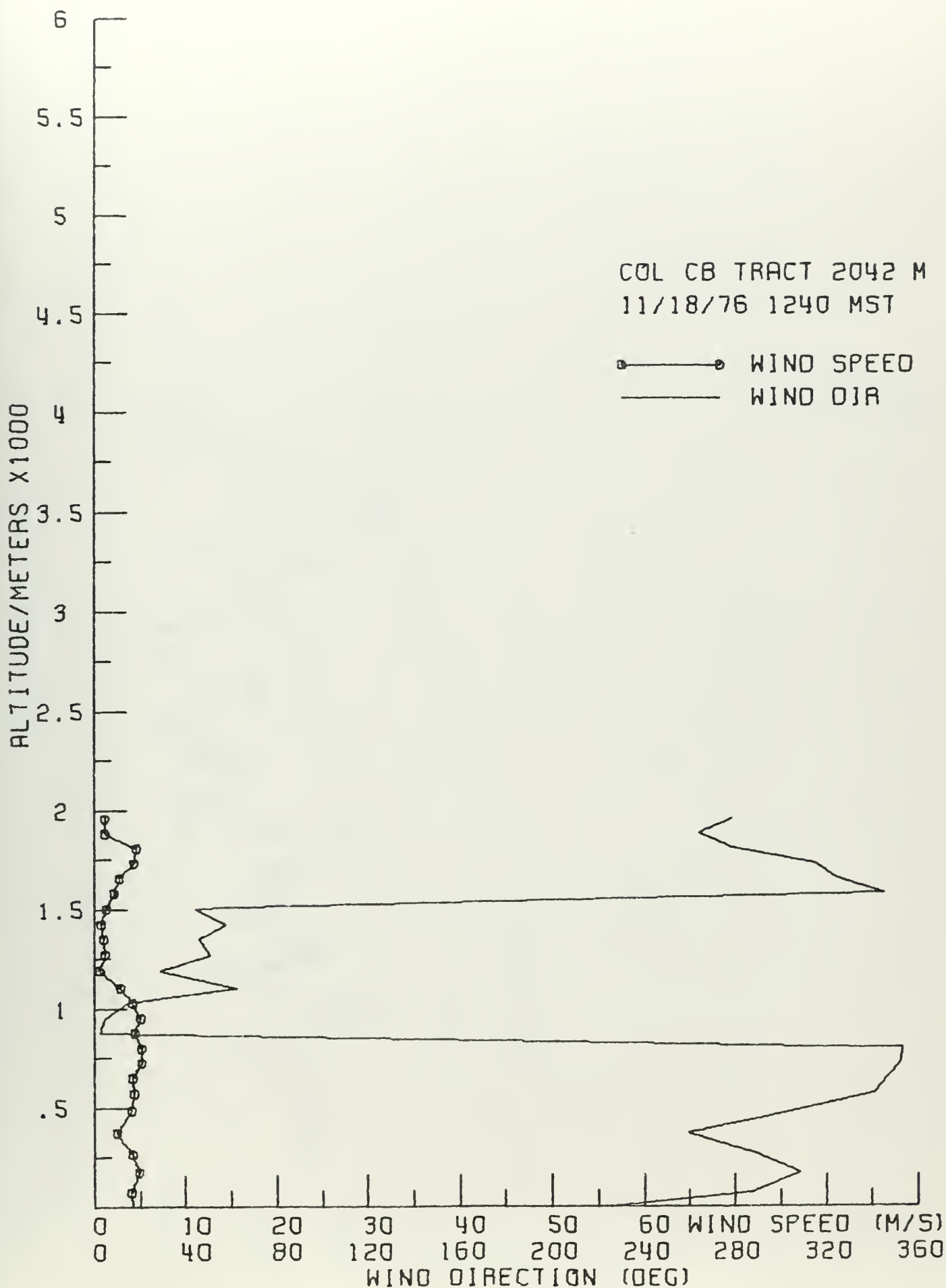




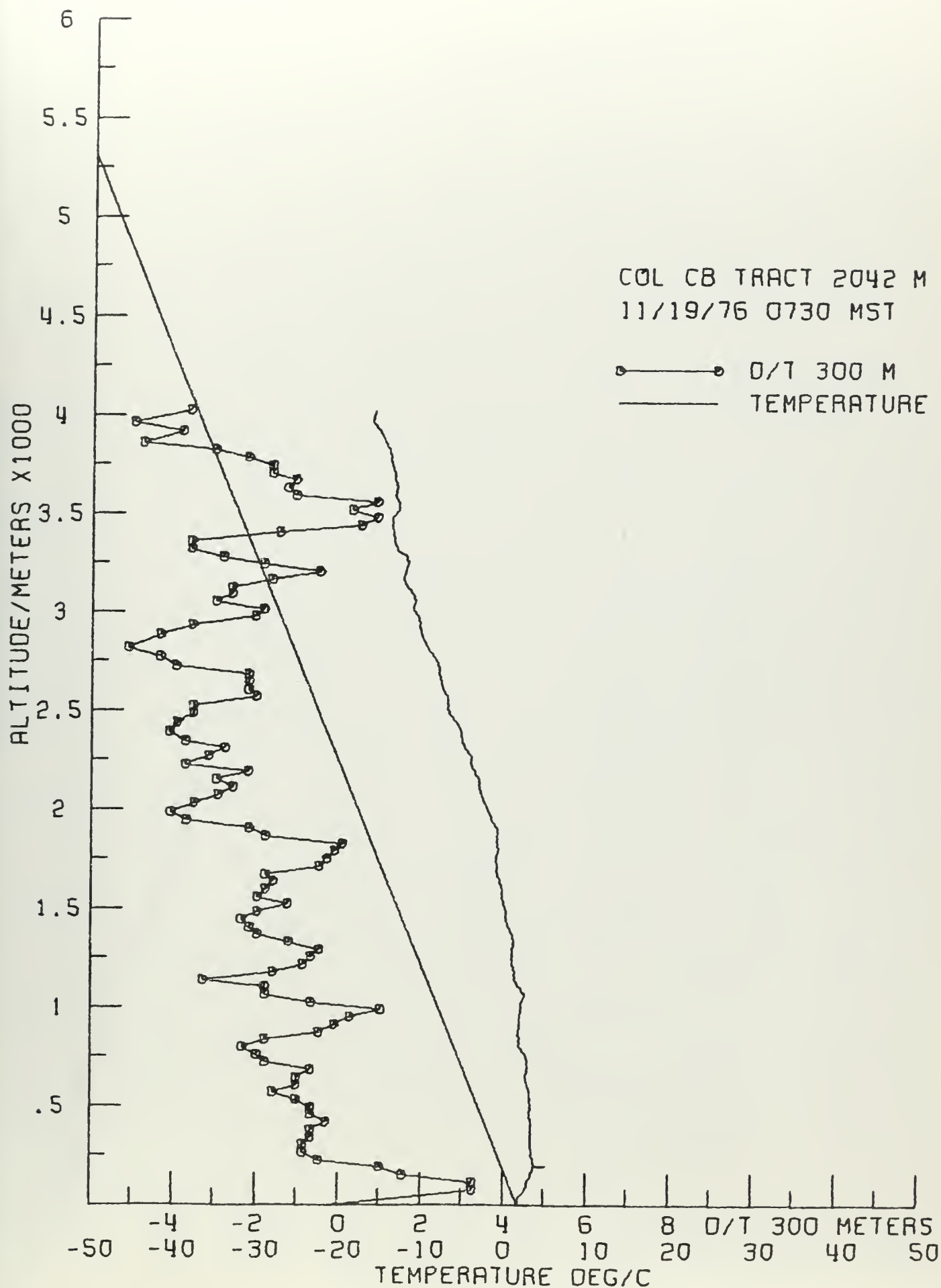




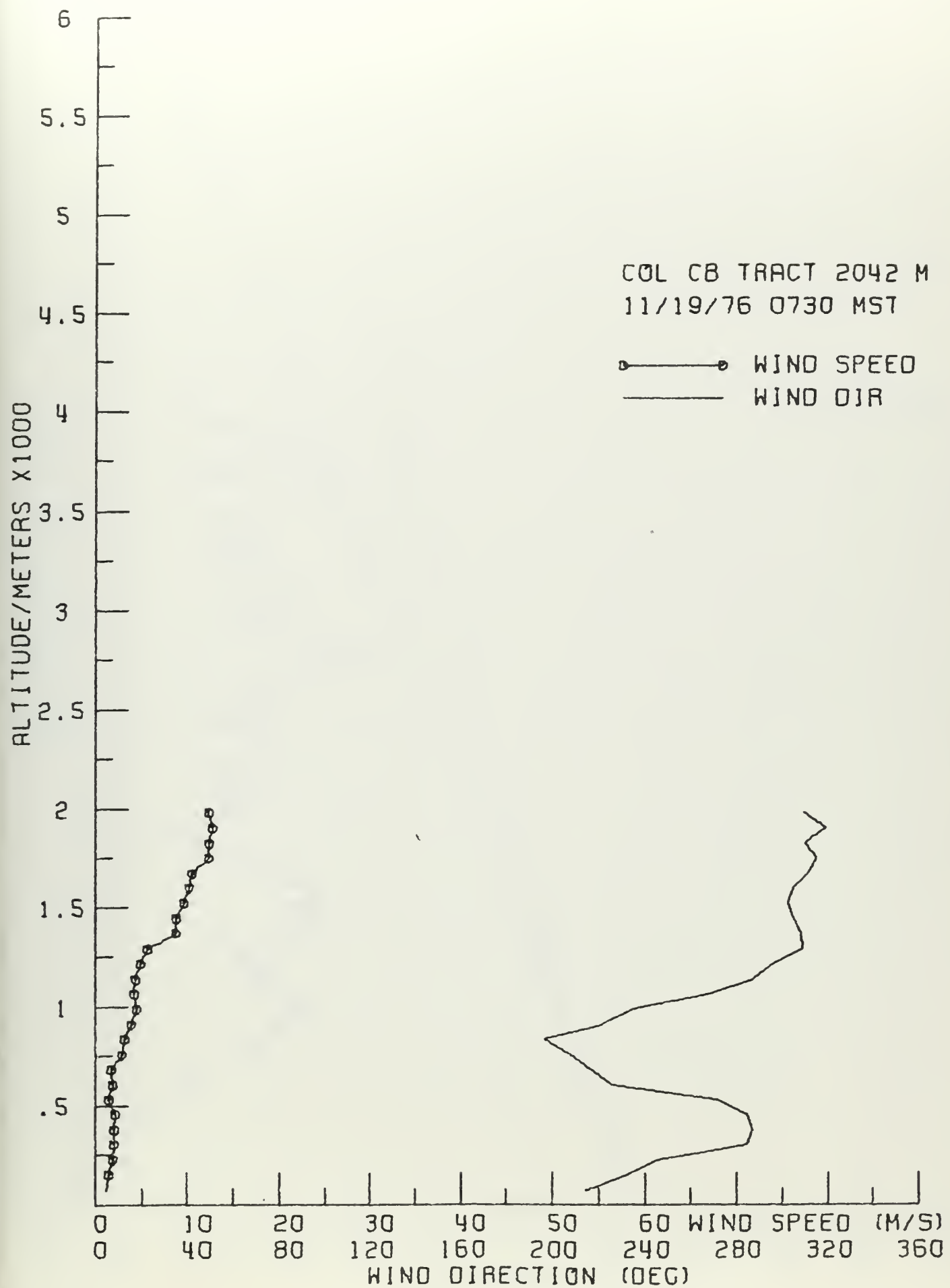






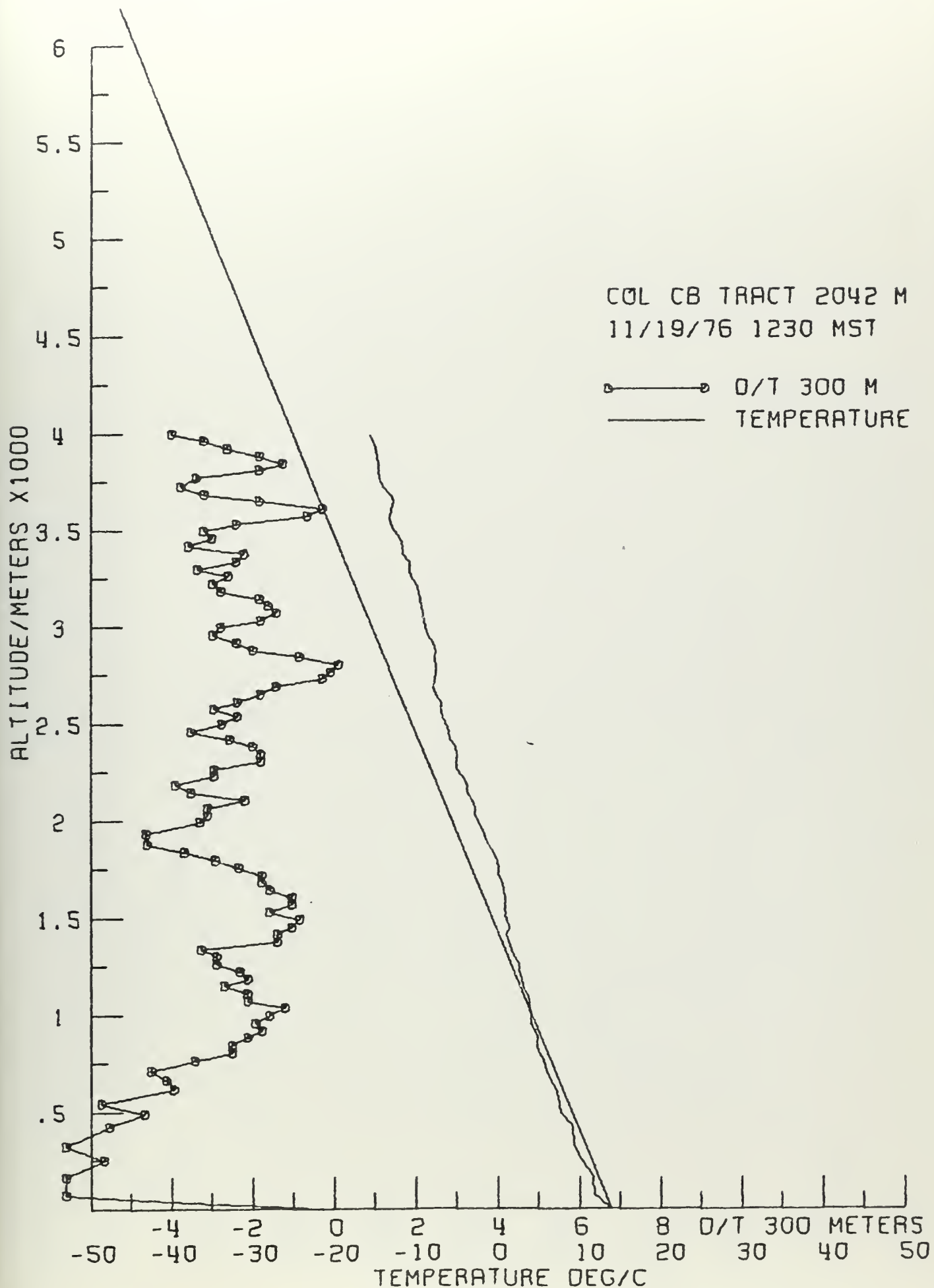




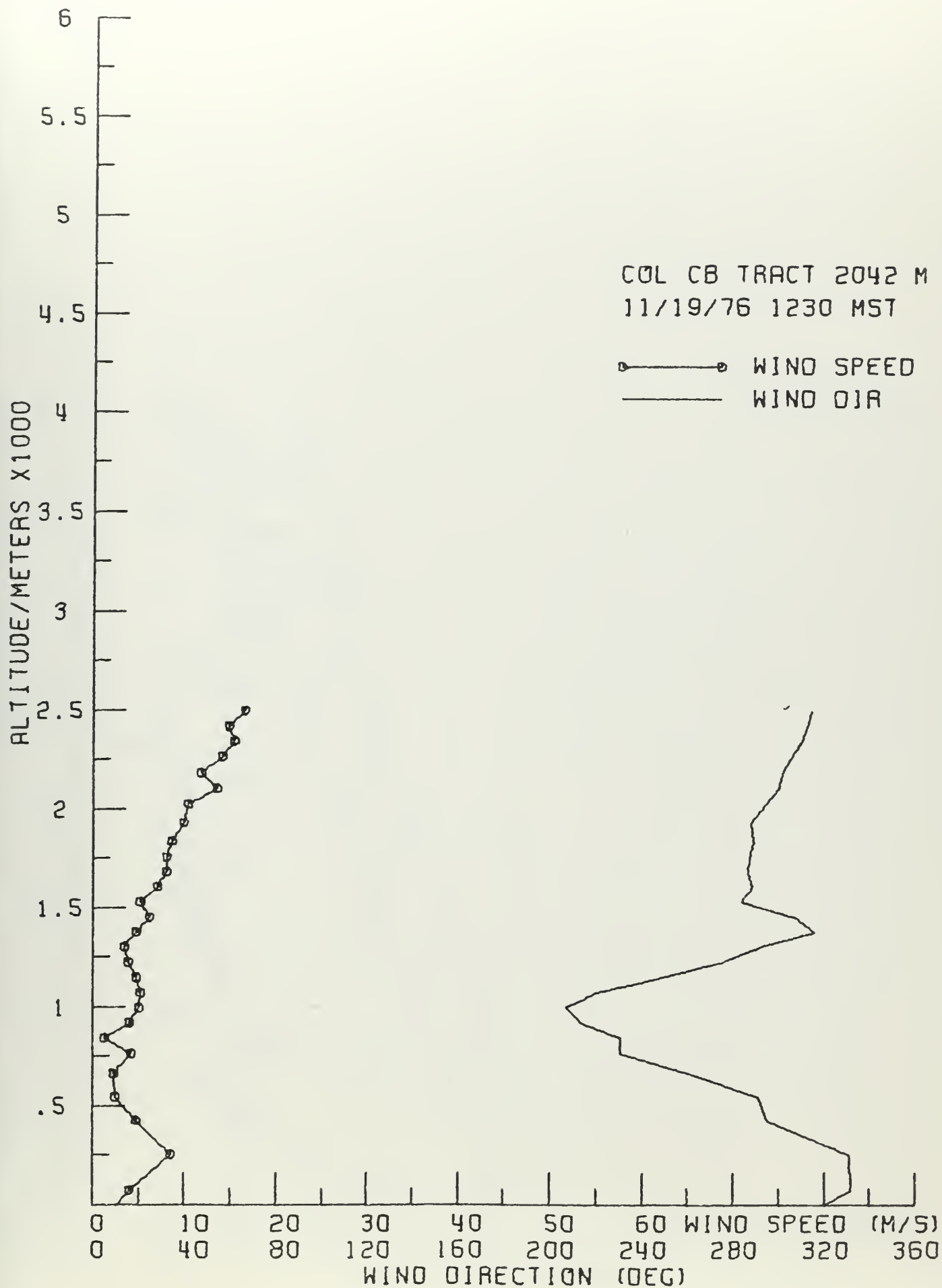




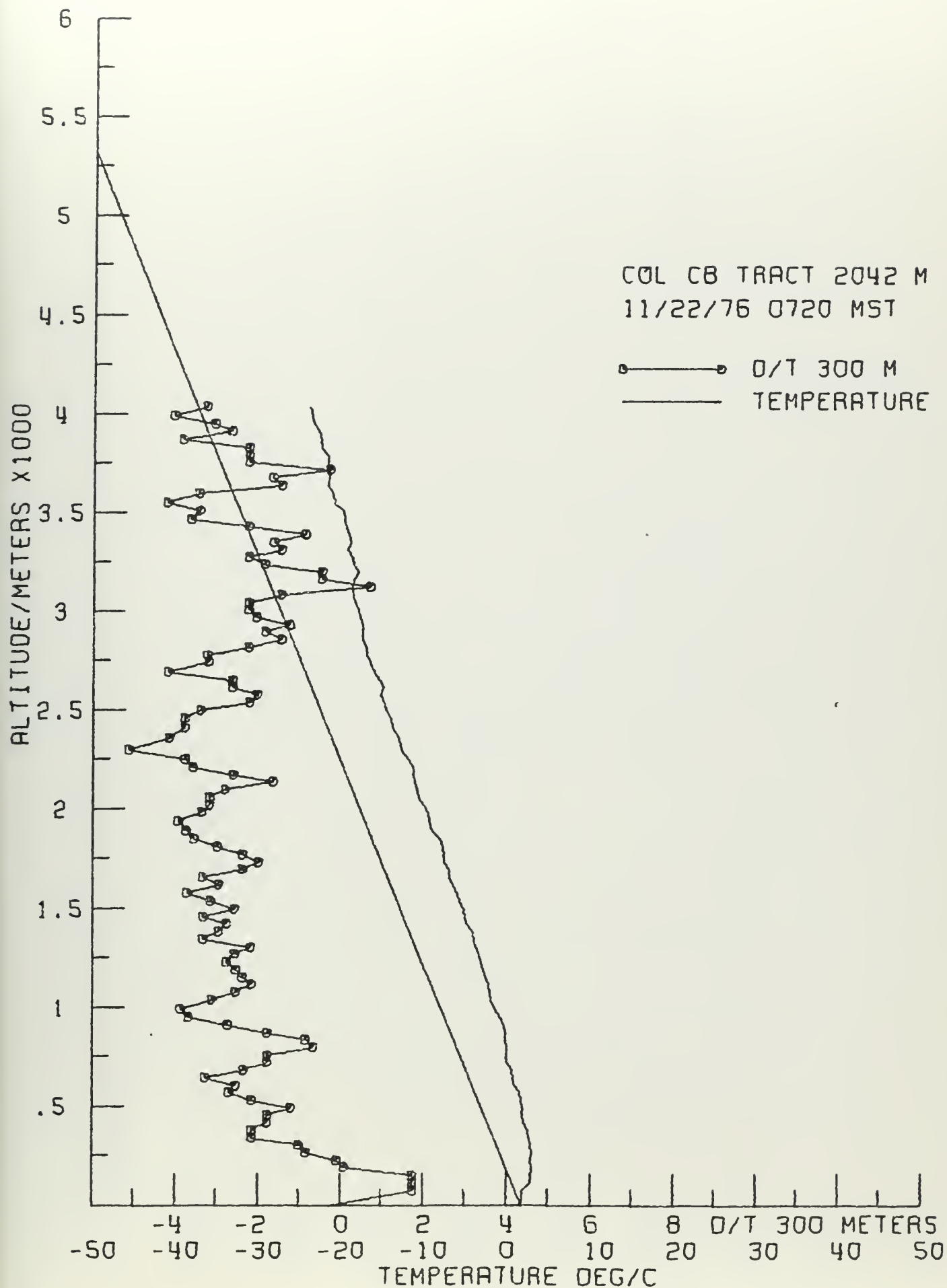




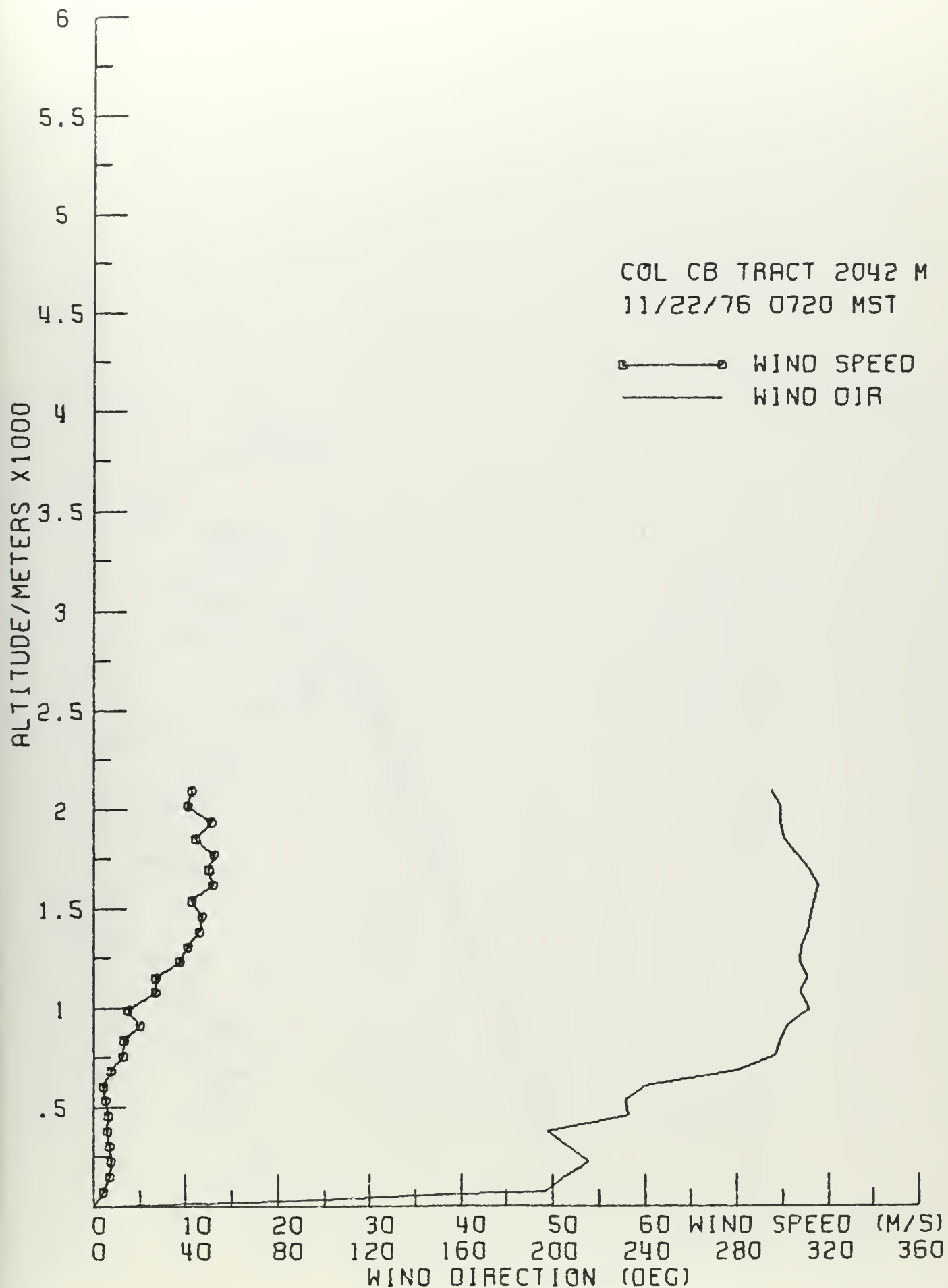






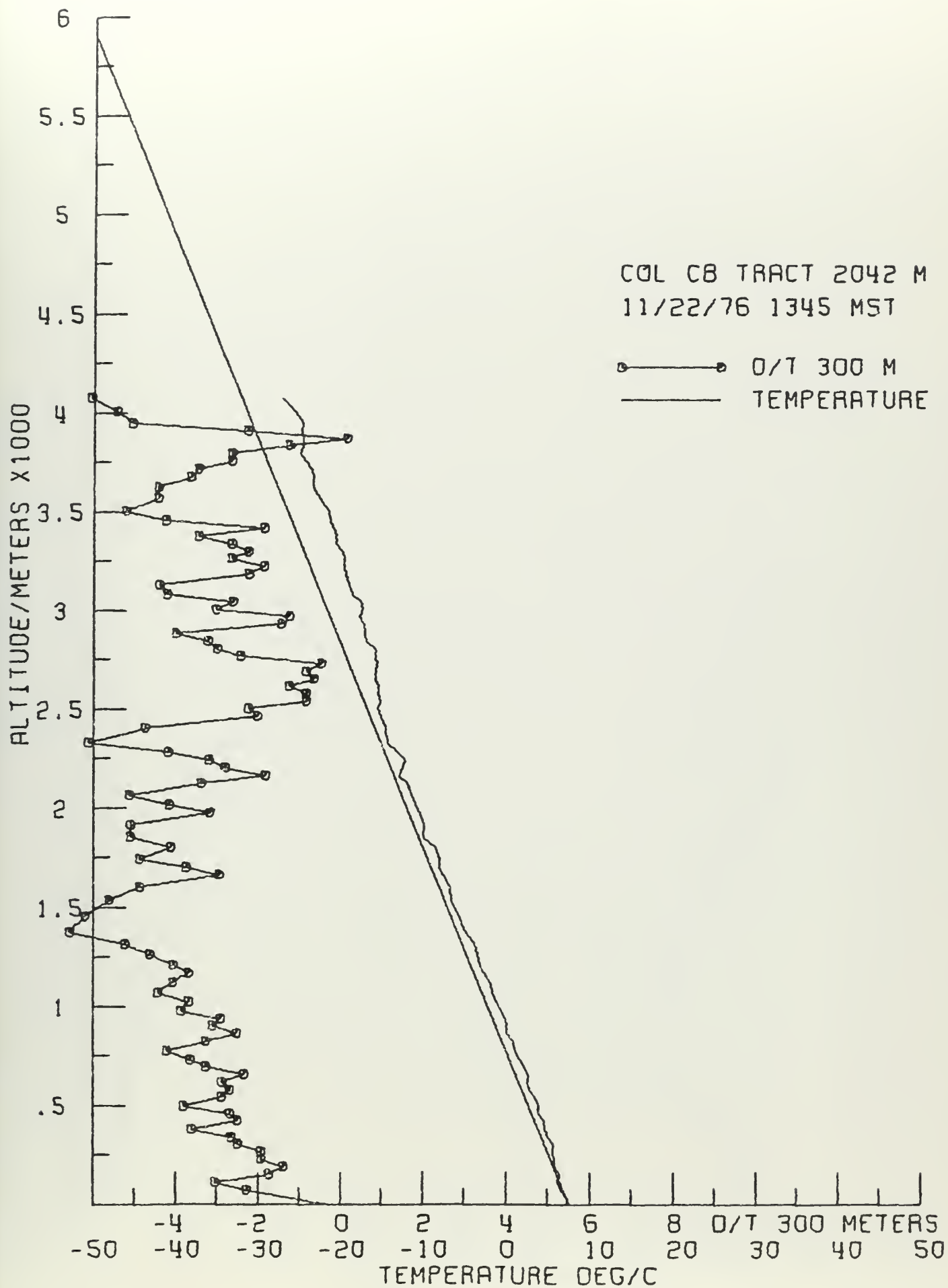




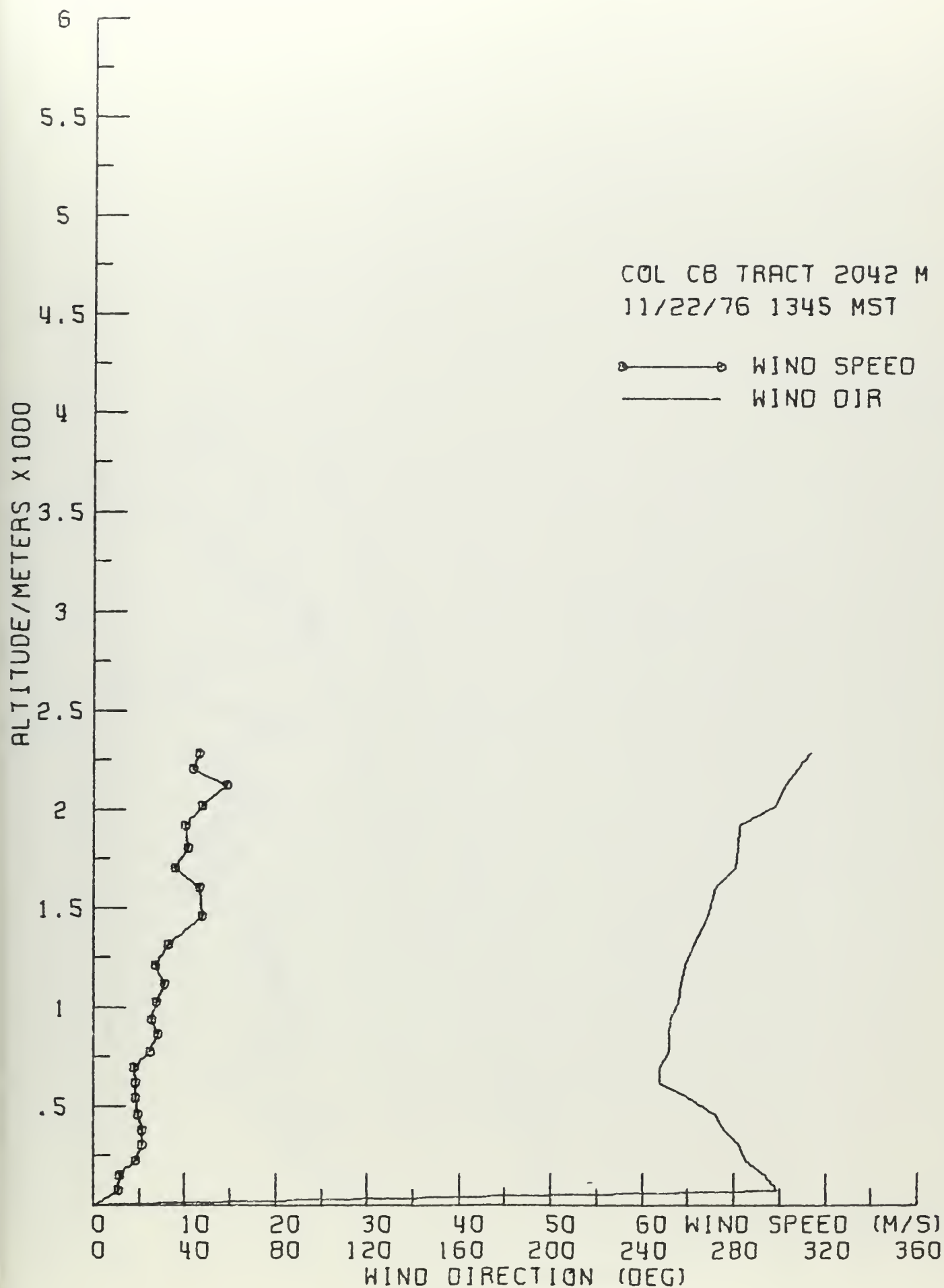




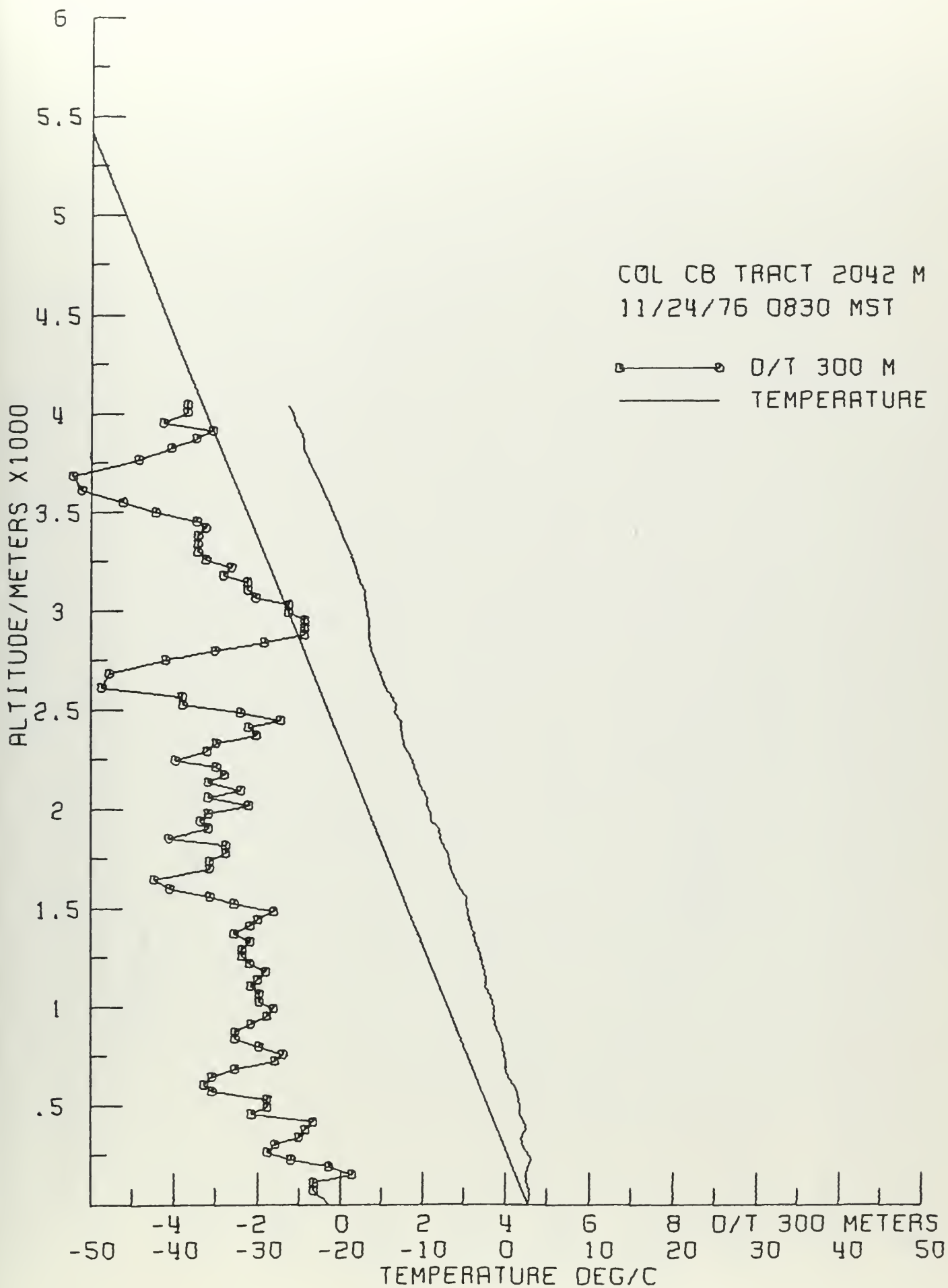






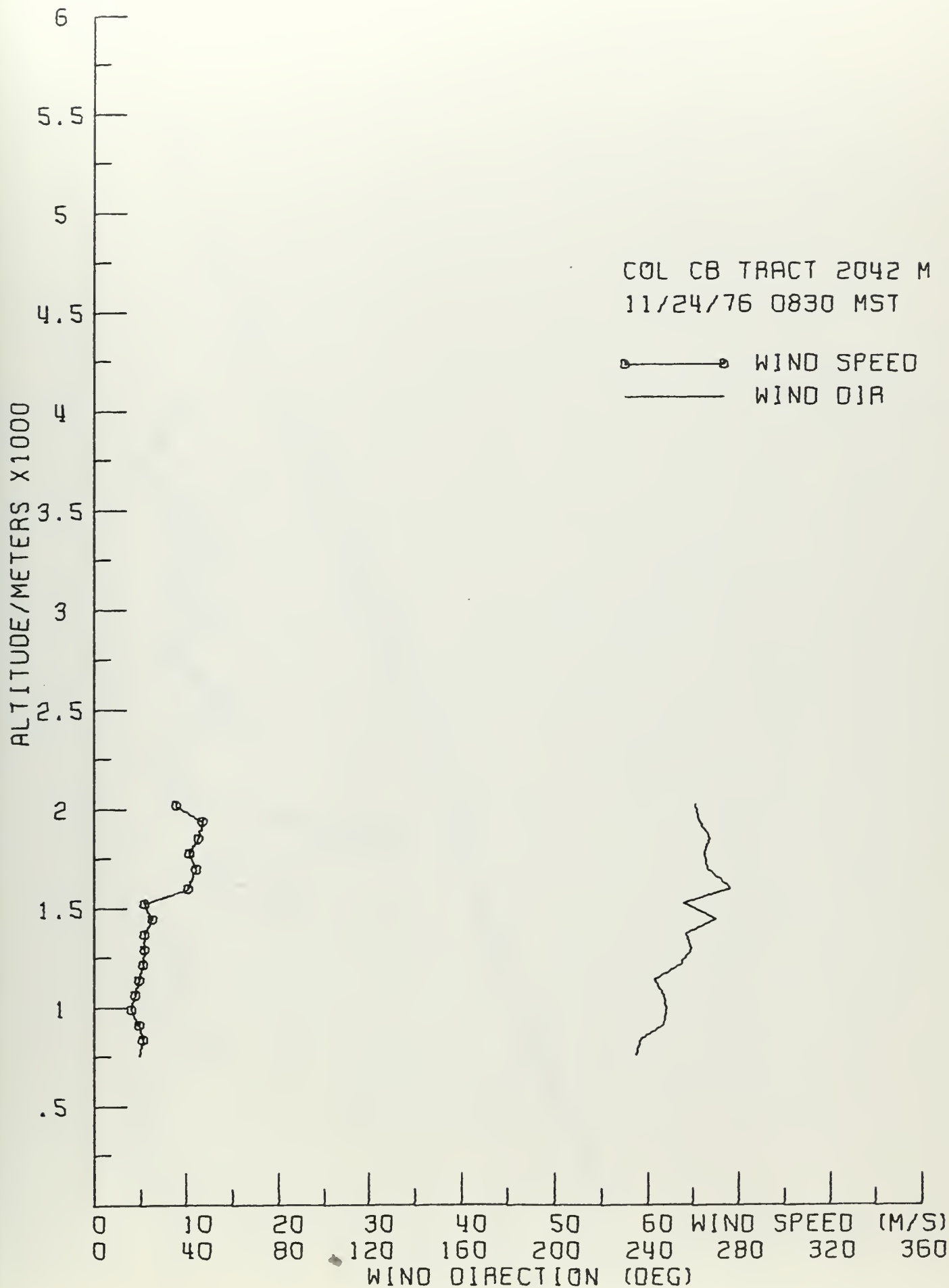




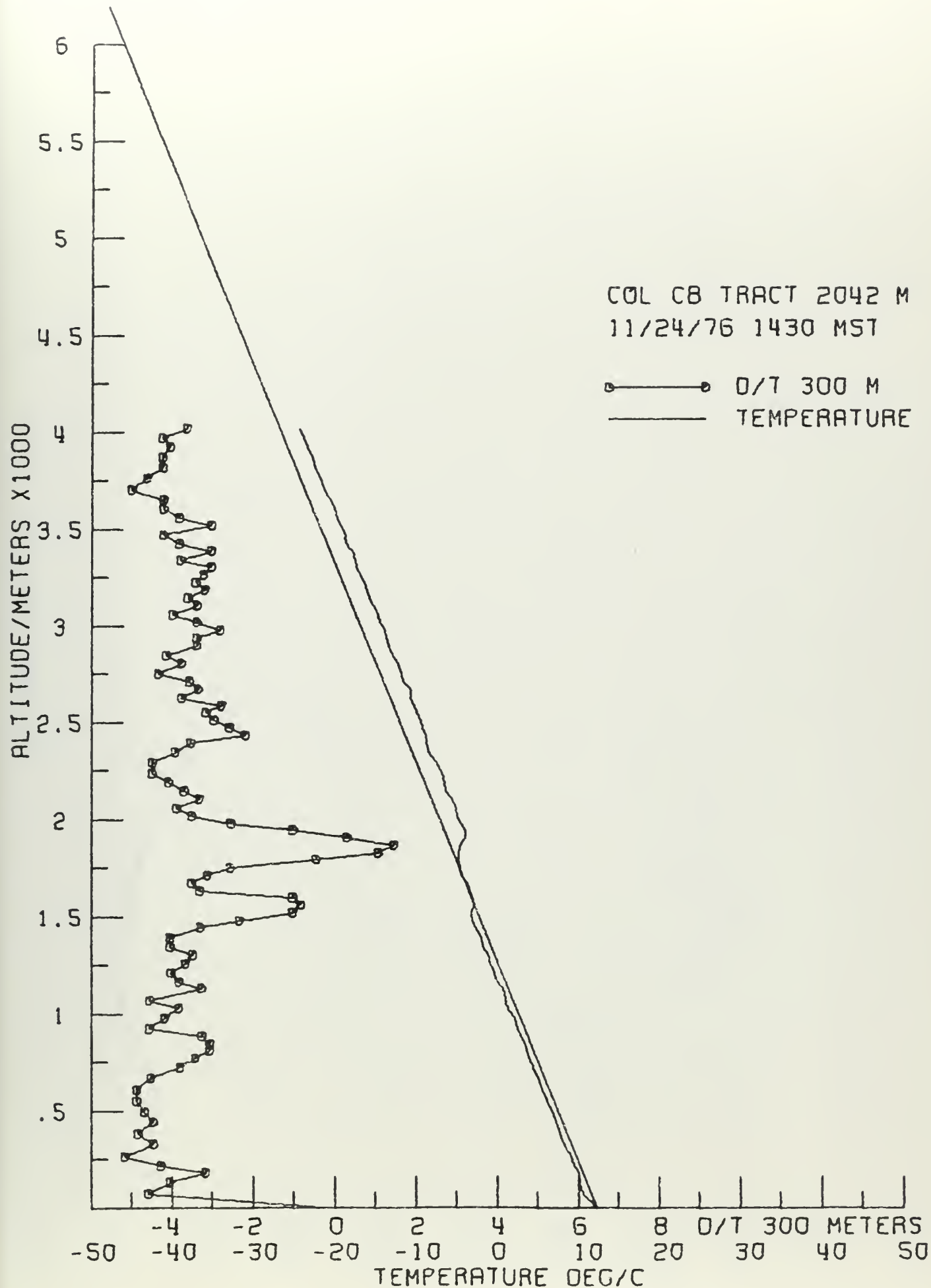




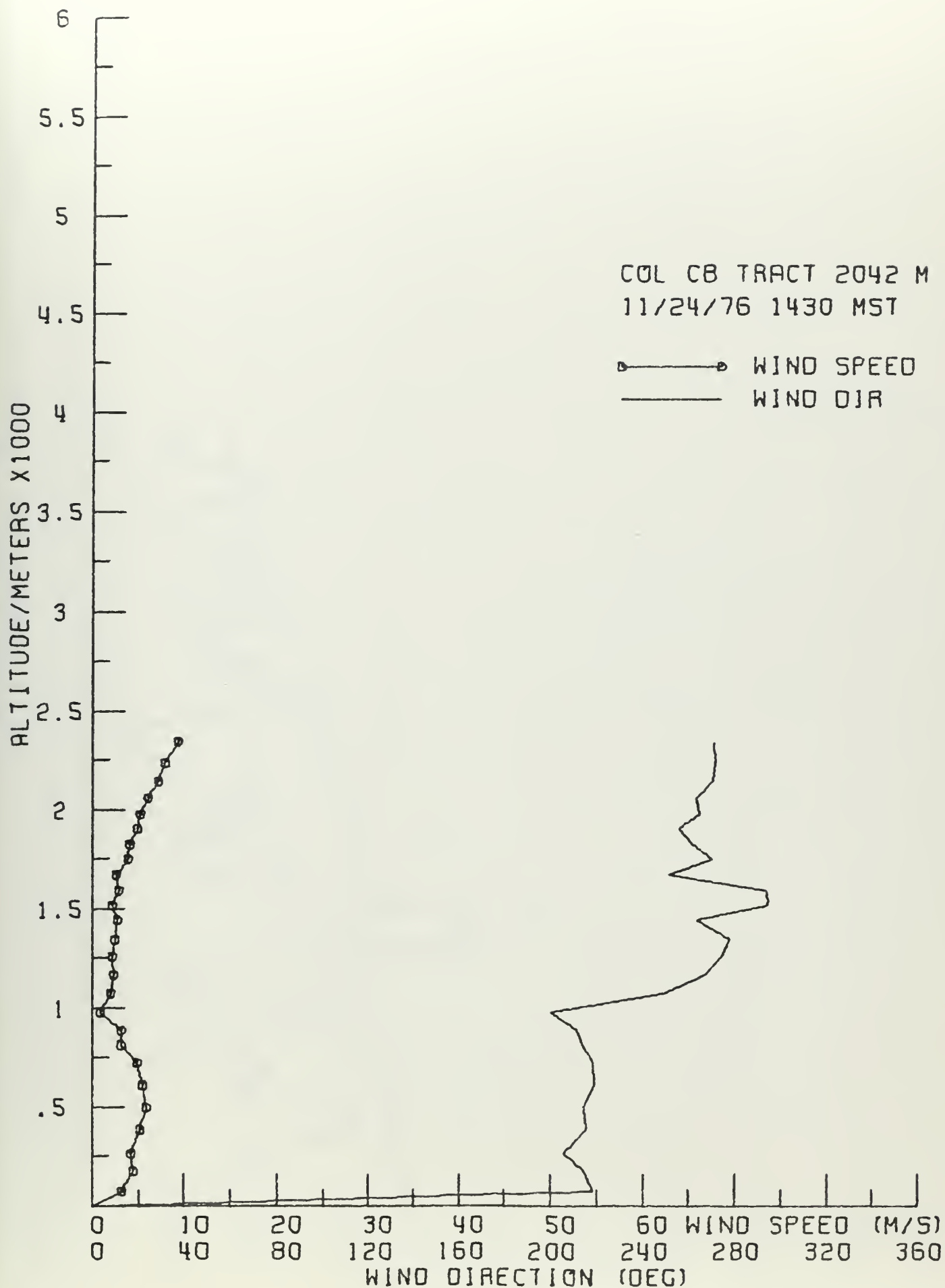




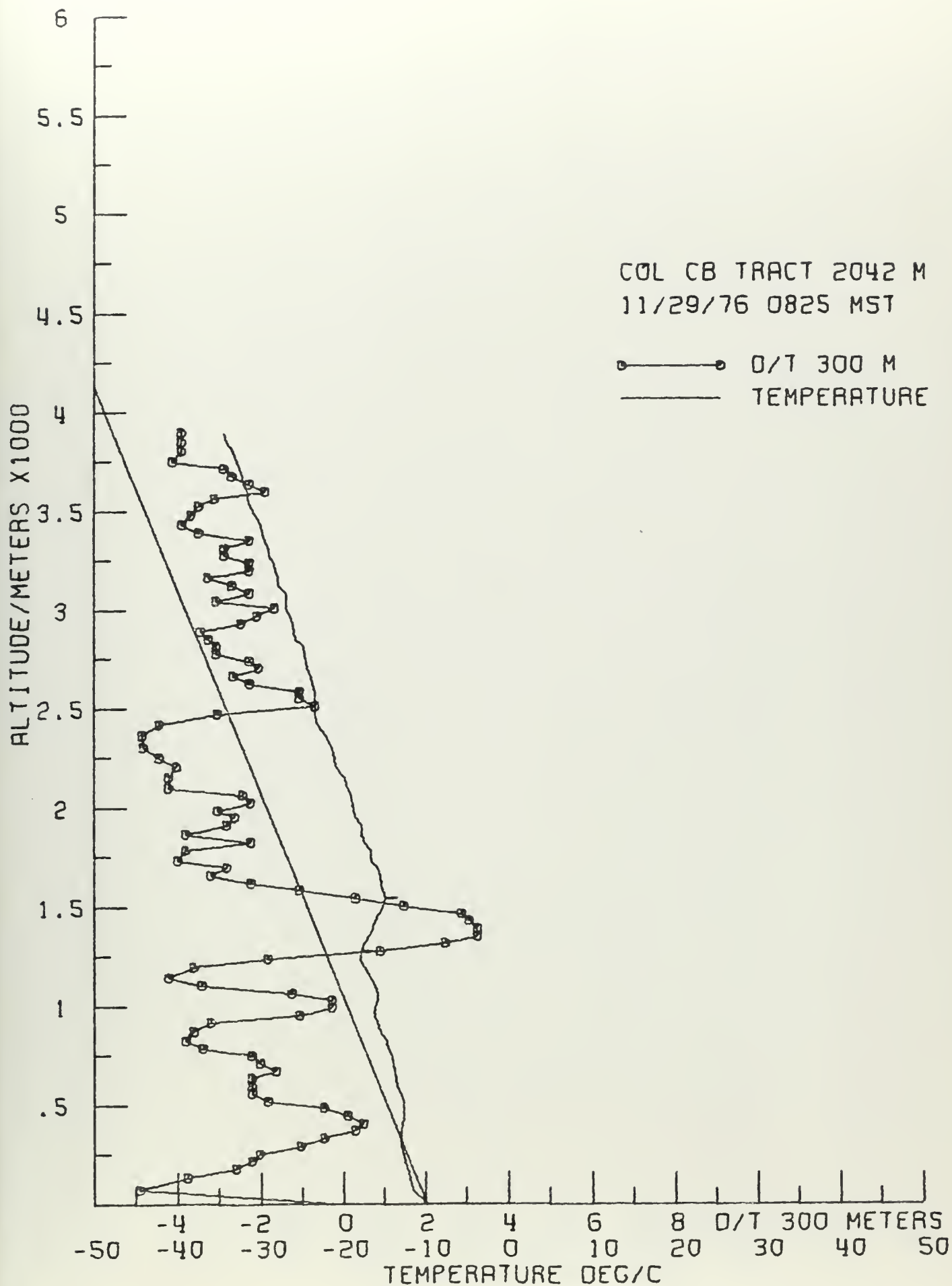






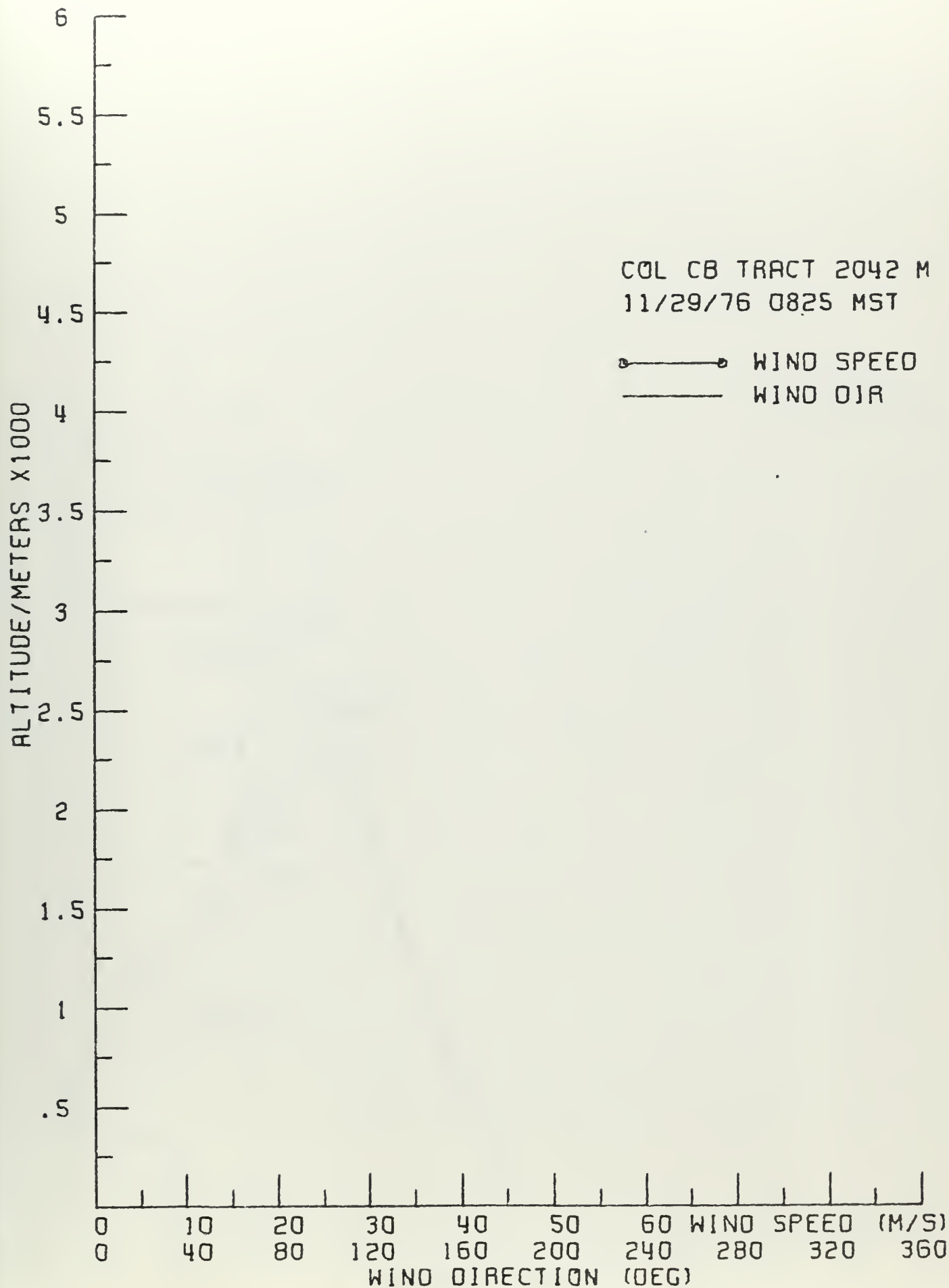




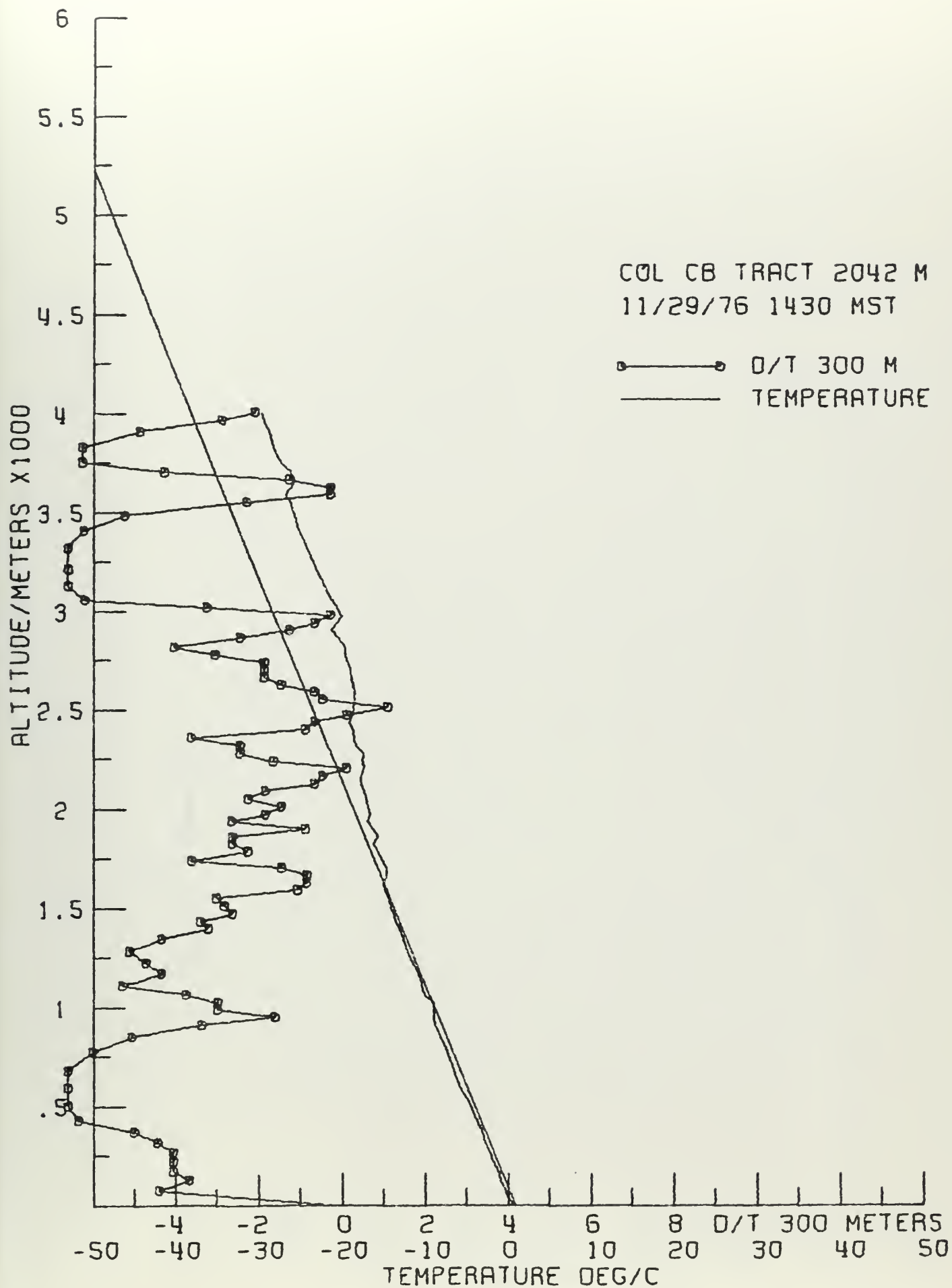




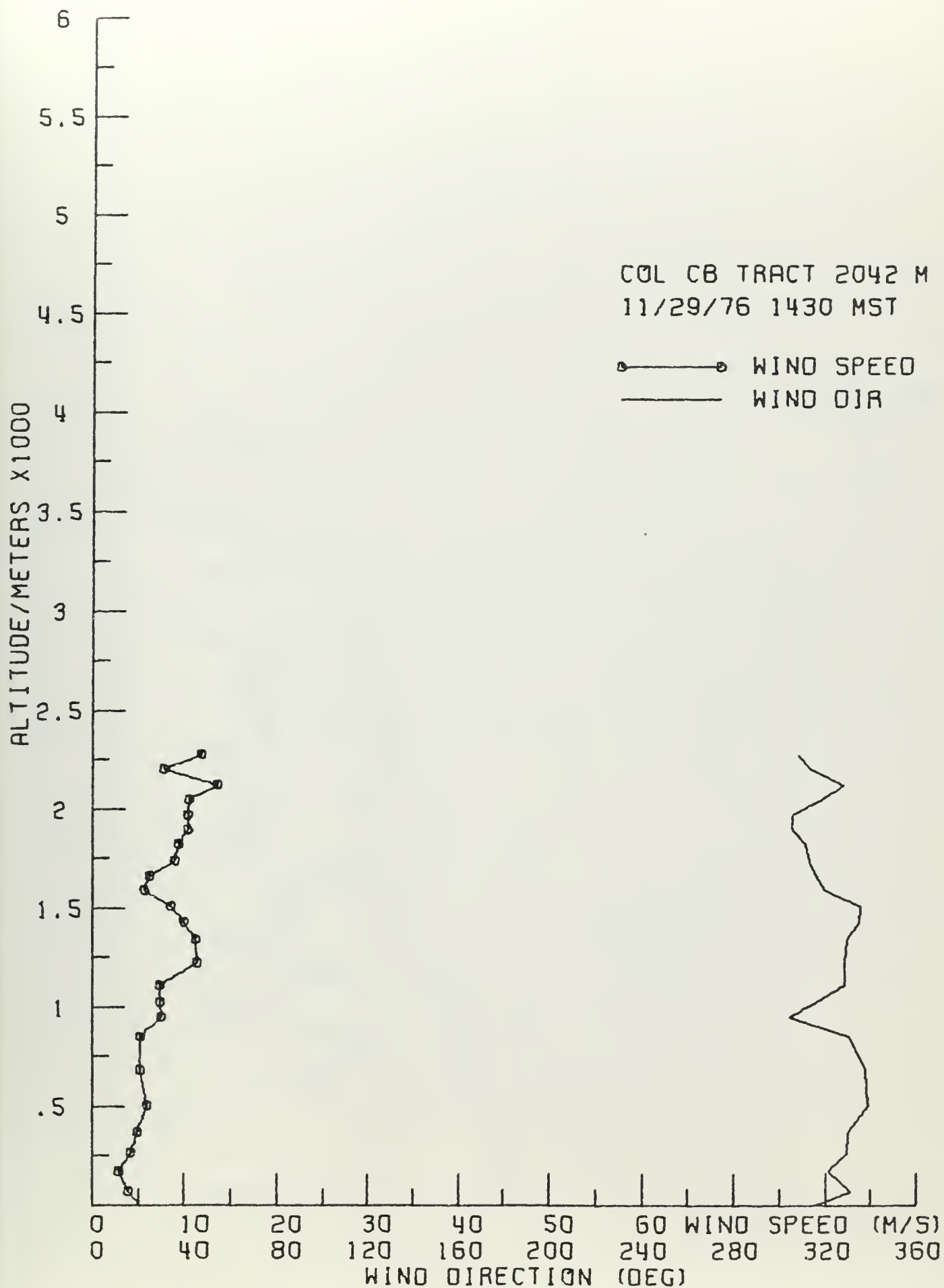






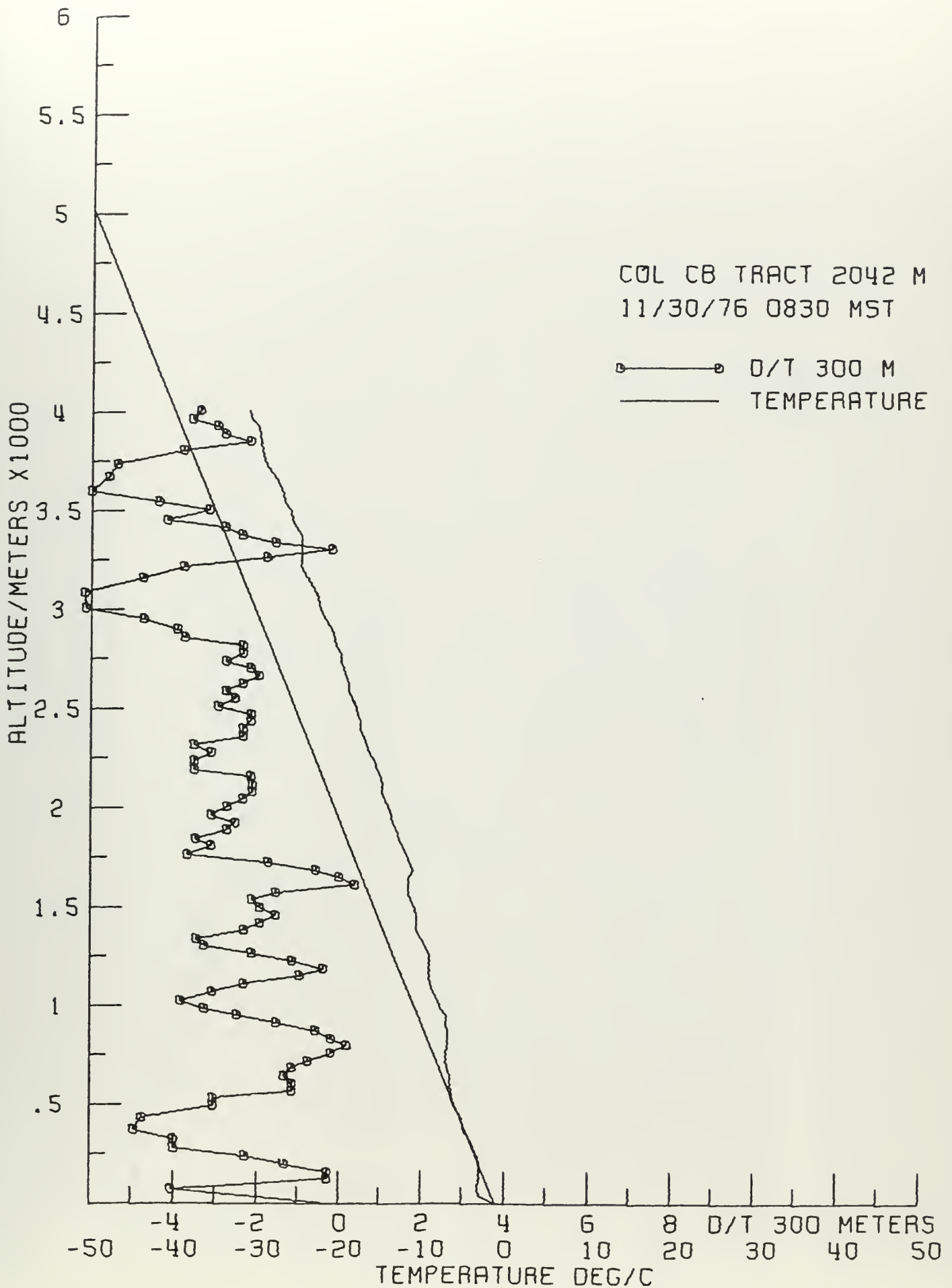




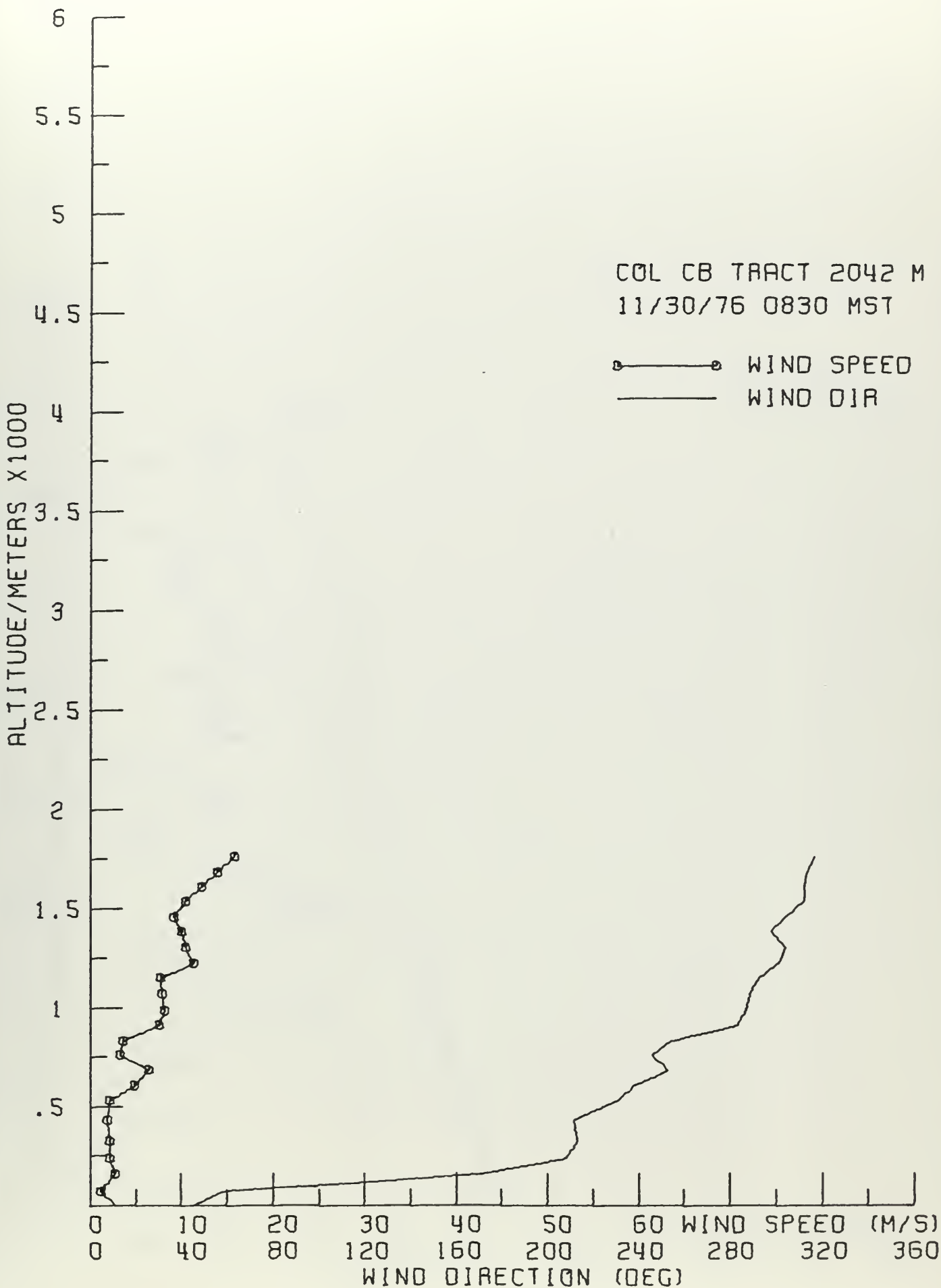




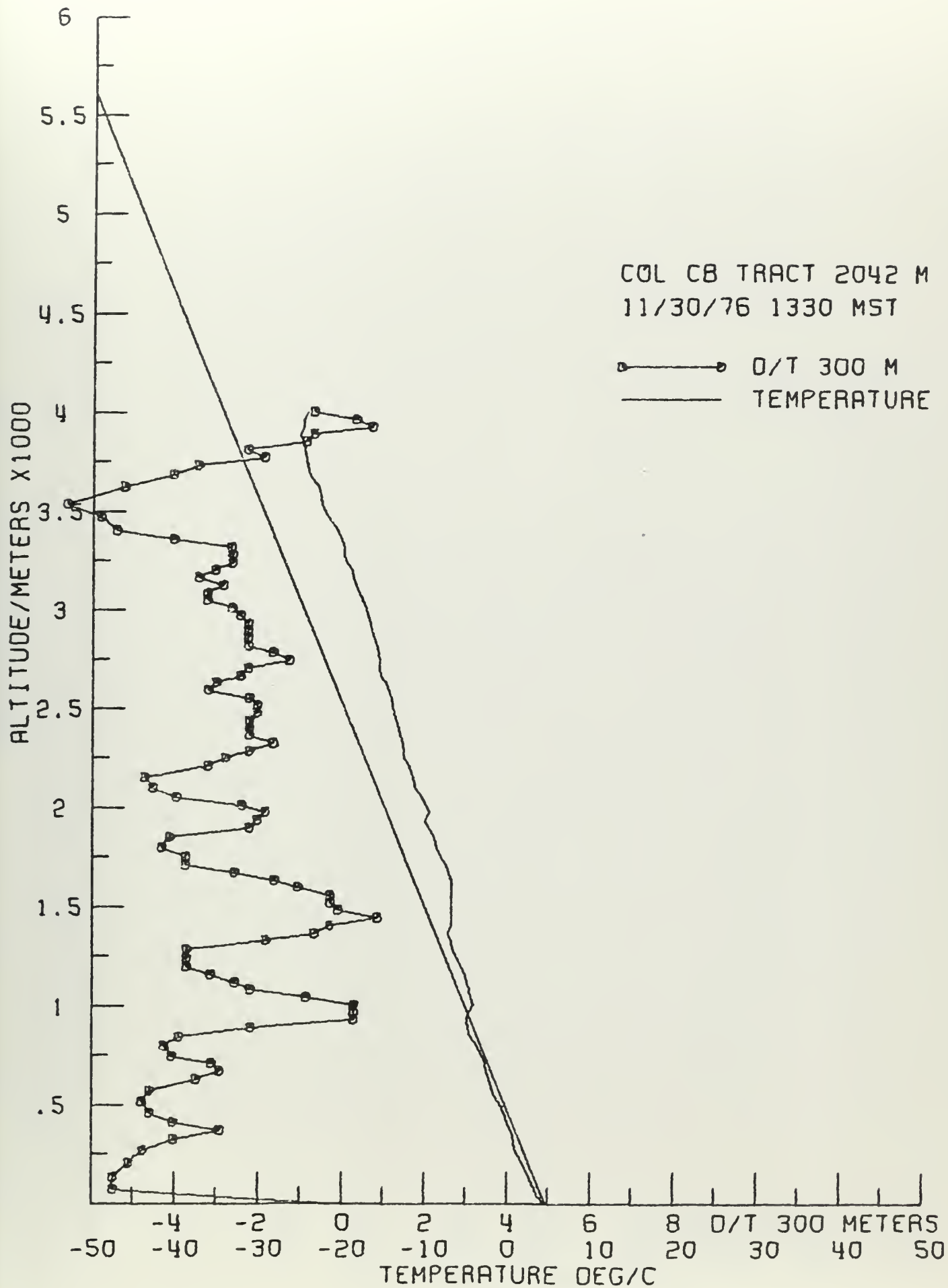




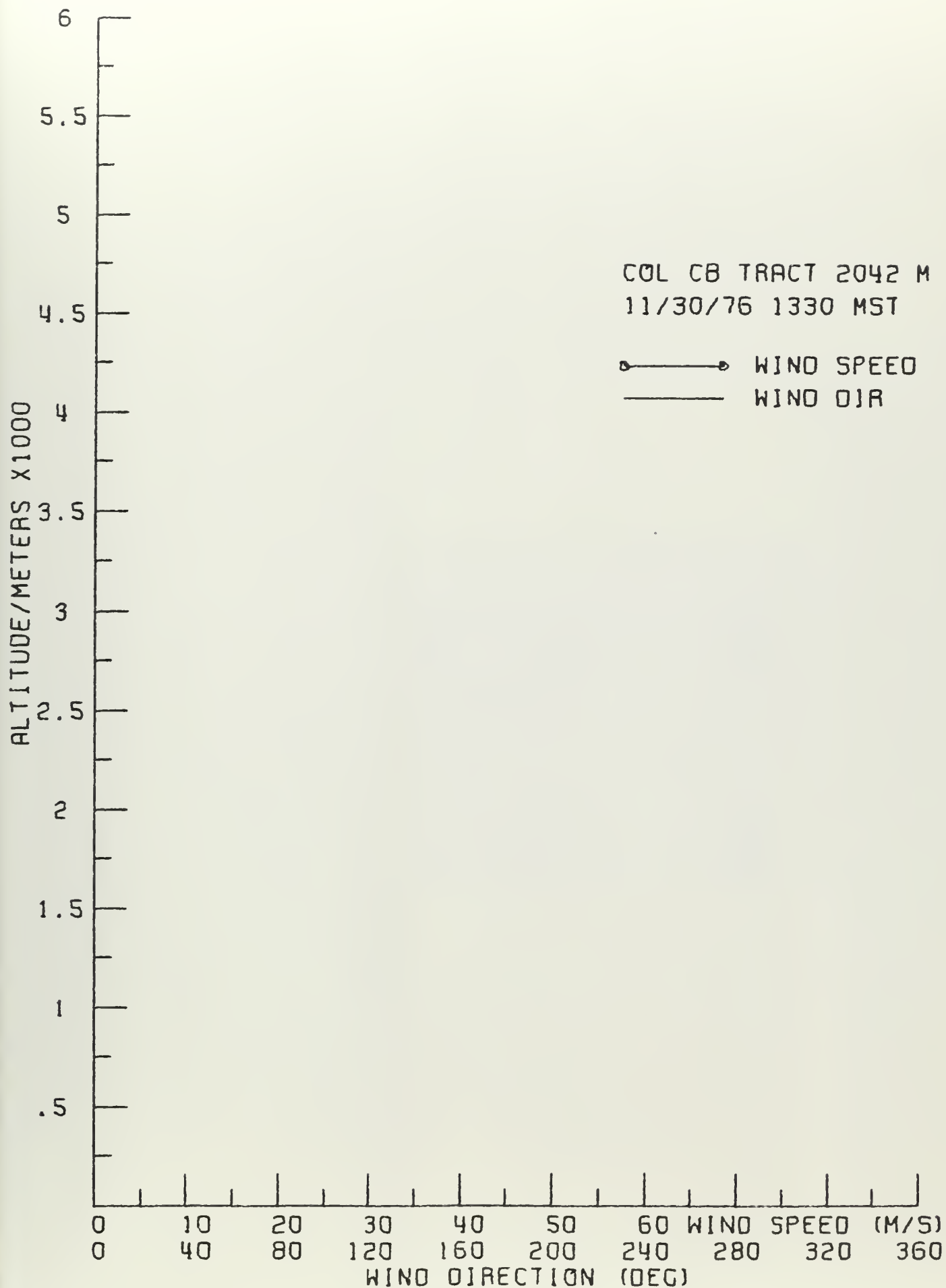
















Form 1279-3  
(June 1984)

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